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AGRICULTURE

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I. GENERAL INFORMATION

GRAIN PROCUREMENT REDUCED

Jinan DAZHONG RIBAO in Chinese 20 Aug 80 p 4

[Report: "Grain Taxation and Purchase in Rural Areas Were Reduced by 5.5 Billion Jin Last Year."]

[Text] Beijing, August 29 (XINHUA)--According to information obtained by reporters from departments concerned, the State reduced through exemptions the grain taxation and purchase quotas for areas with comparatively heavy grain burdens or with difficulties by 5.5 billion jin during the grain year that ran from April 1979 to the end of March 1980. In addition to strengthened financial and material support for agriculture and the big increase in procurement prices of farm products, this is another important measure taken by the State to let the peasants recuperate further and build up strength.

In the past two years, through the implementation of the Party's rural economic policies and because of normal weather conditions, our country's farm production developed rather rapidly, the national grain output registered an increase of 98 billion jin in 1978 and 1979, but the amount of grain sold by production teams to the State rose by only 16 billion jin. More than 80 billion jin of the grain from the increased output of these 2 years was left for the peasants, thus improving the grain situation in rural areas. The number of production teams in which grain was purchased and also sold [by the State] was reduced by 310,000 in 1978 and was further reduced by 140,000 in 1979. All production teams with relatively heavy grain procurement tasks originally were relieved of some of their burdens.

CSO: 4007

RESEARCH ON FARM MECHANIZATION NEEDED

Beijing GUANGMING RIBAO in Chinese 17 Jul 80 p 2

[Article by Zhang Huwen [1728 1920 2429] and Zhu Peiwei [2612 1014 1983]: "Need for Greater Attention and Strengthening of Scientific Research on Agricultural Mechanization"]

[Excerpts] Research on the mechanization of agriculture is an exploratory task on the direct use of farm machines in the agricultural production process for increased farm yields. It differs from research on the design and manufacture of farm machinery products, and is more closely related to farm production. For a long time there has been a tendency in our country toward emphasizing the mechanic while slighting the "-ization" with regard to farm mechanization research work. For a time, virtually no one concerned himself with the "-ization" in research much less having a strong and vigorous nationwide research organization to take this work in hand. Thus, though there has been a steady increase in China's farm machinery, this has created a situation of no advance in the level of farm mechanization, which is the main reason for poor economic benefits from it. A comparison of 1979 with 1965 shows that the number of large and medium-size tractors in China increased 8 fold, and the number of small-size tractors increased 421 fold while the area farmed by machinery increased only 1.7 fold. In some provinces there has even been a situation in which the number of tractors steadily increased while conversely, the area farmed by machines declined. In nationwide terms, as of the end of 1979, the machine-cultivated area amounted to only 42 percent of the total cultivated area; the area sown by machines amounted to only 13 percent of the drylands crop area sown; and the machine-harvested area amounted to only 2.6 percent of the area sown to grain crops. In the case of rice transplanting machines, during the 1960's, the pace of research in China and Japan was about the same. In 1970, the extent of mechanized rice transplanting in Japan was only 3 percent, but it now stands at 80 percent, while in China last year the area of machine-transplanted rice amounted to less than 4 million mu, or only 0.7 percent of the area of paddy fields transplanted. These circumstances vividly demonstrate that a large

amount of farm machinery does not equate to an automatic increase in the level of farm mechanization, but that there is a need for further research in farm mechanization to settle a series of problems such as the course of China's farm mechanization, the compatibility of farm mechanization and farm technology, and a rational application of farm machinery. Only then can farm machinery provide their full advantages for agricultural production and make a contribution to increased output and increased income.

As a result of the gradual appreciation in recent years of the importance of farm mechanization research, work in this sphere has begun to show some progress. Nowadays, in addition to the two farm mechanization institutes directly under the jurisdiction of the Ministry of Agricultural Administration, which have been revived, in numerous provinces, municipalities, and autonomous regions throughout the country, either agricultural mechanization institutes or laboratories have been established, and they have begun research on some problems having to do with the "-ization" aspect. In some places, agricultural research organizations have taken the initiative to coordinate with farm machinery research units to set up farm mechanization research test sites from experiences in production. These have had heartening results. For example, during the past 2 years, the Doudian Commune in Beijing's suburban Fangshan County, with the help of the Beijing Municipal Agricultural Institute, has changed the farming system of three plantings and three harvests, which is not suited to mechanized operations, into two crop flat seeding, which is suitable for mechanization. This, plus the breeding of early ripening varieties, has brought steady large-scale increased output from the autumn grain crop. Output during the first year increased from 1.65 million jin to more than 2.4 million jin. In the second year there was another increase to more than 3.4 million jin. This example demonstrates that if only production realities are probed and farm machinery and agricultural research units linked to strengthen research in the mechanization of agriculture, the potential for increased yields in agriculture will be great.

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PROGRESS IN FORECASTING CROP DISEASES, INSECT PESTS REPORTED

Beijing RENMIN RIBAO in Chinese 11 Aug 80 p 2

[Article: "Growth of China's Crop Disease and Insect Pest Forecasting; Timely Issuance of Forecasts Has Been Remarkably Effective for Prevention and Control Work Everywhere"]

[Text] China's crop disease and insect pest forecasting and reporting work has seen great development, with the virtual formation of a disease and insect pest forecasting network extending from top to bottom. Now the Ministry of Agriculture has set up a Crop Disease and Insect Pest Forecasting and Reporting Main Station. One after another, every province, municipality, and autonomous region has also set up disease and insect pest forecasting stations or sections. Two-thirds of the prefectures and counties have set up a total of more than 1,700 prefectural or county disease and insect pest forecasting stations. At the grass-roots level, communes, production brigades and production teams have set up countless disease and insect pest forecasting points manned by peasant forecasting personnel.

The object of China's crop disease and insect pest forecasting today is more than 30 major diseases and insect pests afflicting the entire country as well as more than 40 localized diseases and insect pests. Thanks to timely issuance of forecasts, prevention and control work has been promoted everywhere. This summer's outbreak of summer locusts was forecast 3 months before it happened, which meant that the area afflicted by summer locusts along lake shores, coastal areas and inland as well as the density of insects was less than last year. Along the shores of the Yellow River in the Shandong-Henan border area, outbreaks will be severe. Acting on the forecasts, every jurisdiction revised its prevention plans. Some prefectures shortened their control areas while others intensified prevention work. In locust areas both north and south, only 10 days' time was needed for a fairly complete eradication of locust pests. Another example was the sudden outbreak of meadowland snout moth's larva. As early as the first 10 days of June this year, the possibility of a large outbreak was forecast and the main forecasting station promptly issued an urgent forecast report. The Nei Mongol Autonomous Region

People's Government required every jurisdiction to strengthen leadership and disbursed 1 million yuan of special funds to wipe out the insects. The Heilongjiang Provincial People's Government called upon every prefecture and county to establish urgently an Insect Eradication Command. Thanks to the timely forecasting, preparations for prevention work were complete and results were outstanding.

With the help of posts and telecommunications units throughout the country, forecasting stations have made widespread use of the "Agricultural Disease and Insect Forecasting Telecommunications Code" to increase the speed of transmittal of insect intelligence.

Every jurisdiction has also given heavy attention to the technical training of a forecasting corps. In recent years, quite a few cadres and technicians of forecasting stations have been commended as advanced workers by provinces, prefectures and counties, and some have attended the All-China Science Conference.

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STATE AQUATIC PRODUCTS BUREAU OFFICIAL INTERVIEWED

Hong Kong CHING-CHI TAO-PAO in Chinese 6 Aug 80 pp 2-6

[Article: "Deputy Director of State Aquatic Products Bureau Cong Ziming [0654 1311 2494] Replies to Reporter's Question About the Present and Future of China's Fishing Industry Production"]

[Text] Recently a correspondent from this newspaper interviewed the deputy director of the State Aquatic Products Bureau, Cong Ziming [0654 1311 2494]. He made the following replies about measures that are being taken with regard to China's aquatic production during the period of readjustment of the national economy in order to advance the fishing industry with all possible speed, as well as about the current situation and future development of production in the fishing industry.

Question: Please discuss the problems in aquatic products that require solution first, during the period of readjustment of the national economy.

Answer: In accordance with the program of the central government for readjustment, restructuring, consolidation and improvement of the national economy and the integration of aquatic products, vigorous efforts are being made during the period of readjustment to protect aquatic product resources, actively develop breeding, readjust inshore operations, develop deep-sea fishing grounds, adopt advanced technology, strengthen scientific management, improve product quality and increase market supplies. A year's experience has demonstrated that this course is in line with realities in the fishing industry.

In the 30 years since the founding of the People's Republic, our fishing industry has made great accomplishments. However, as a result of the interference and destruction caused by Lin Biao and the "gang of four," as well as weaknesses in our own work, aquatic product resources have sustained serious damage. At the present time, aquatic products in our country are in a backward state, with production levels very low and far from meeting the needs or steady increases required for the development of the entire national economy and the standard of living of the people. They have become a weak link in the national economy. Consequently, ever since the Third Plenary Session of the 11th Party Central Committee, the

since the Third Plenary Session of the 11th Party Central Committee, the Party Central Committee and the State Council have adopted a series of measures to strengthen production in the fishing industry, requiring that in the formulation of plans, the study of problems, and the allocation of manpower, materials and financial resources, every locale and department must take fishing industry production into consideration and, while making fullest use of the existing foundation, strive to tap unused potential, to increase mechanization of the fishing industry and the machinery for cold storage processing to protect freshness, and to increase support for aquatic products work.

Question: What exactly has been done and what is planned for the future to hasten the development of the fishing industry?

Answer: First of all, in order to protect aquatic products resources, the Chinese Government last year promulgated the "Aquatic Products Resources Breeding Protection Act." It reiterated proscribed fishing grounds, banned fishing at certain times and set up a fishing industry permit system. It prohibited indiscriminate fishing for spawning fish and young fish. Limits have been placed on catches of mature small fish and on the closeness of the mesh in shrimp nets. Fishing is permitted only at prescribed times and in prescribed areas. Violators will be punished in accordance with the seriousness of their violations.

Second, in order to protect inshore resources, we have acted on the advice of aquatic products experts, who have proposed stringent curtailment of the intensity of fishing in inshore areas. It is planned that such fishing will be kept at a fixed level over the next 3 to 5 years, and that existing fishing craft be actively organized for the development of ocean fishing farther out.

Third, there is a rapid growing understanding of the basic situation in deep-sea resources even while we are protecting inshore resources. In recent years, China's aquatic products scientists have launched an investigation into aquatic product resources. In their investigation of deep-sea areas of the Eastern Sea, they have proposed 20 fishing grounds of from 80 to 120 meters in depth, and they have collected 345 kinds of deep-sea fish. Investigation of fishing area resources over a 75,000-square-kilometer deep-sea area on the continental shelf turned up deep-water soft fish and adipose diptherous pomfret resources.

Fourth, there has been an increase in the state procurement price for aquatic products. Last year the state increased by 23 percent the price paid for aquatic products. This aroused the enthusiasm of the fishermen and increased their income. Such a large increase in the purchase price of aquatic products has been unprecedented since the founding of the People's Republic.

Fifth, there has been a vigorous development of both ocean and freshwater breeding. Some ocean-breeding bases have been established in the inshore

areas of Bohai and the Eastern Sea for the propagation of kelp, agar, shrimp, mussels and mother-of-pearl. Commercial fishing bases have been set up for freshwater breeding in 78 countries in 11 provinces, including Hunan, Hubei, Zhejiang and Jiangsu, and in 1979 the area put into production for the propagation of fish amounted to 16,000 mu, producing more than 24 million tons of fish. During the past 2 years, more than 250,000 mu of breeding ponds have been set up one after another, and approximately 150,000 mu of breeding ponds are currently under construction. Crib propagation of fish and factorized fishbreeding have also been launched.

Sixth, we have seen the test establishment of combined enterprises for fisheries, industry and commerce. Once such combined enterprises have fulfilled their quotas for delivery of aquatic products to the state, they will be able to process and sell their own aquatic products. This will permit the rapid accumulation of increased amounts of funds by communes and brigades in the fishing industry and will change the past practice whereby aquatic products meant solely the production of fish.

Seventh, a number of aquatic products cold storage facilities have been established to improve the freshness of aquatic products. Our country's base for cold storage of aquatic products has been extremely weak. By the end of the First Five-Year Plan, total cold storage capacity amounted to only somewhat more than 11,000 tons, and as of 1972 it was only somewhat over 70,000 tons. During the past several years, the quantity of cold storage for aquatic products has seen a much greater increase. Currently, in coastal provinces and municipalities, there are more than 183 cold storage plants with a cold-storage capacity of 160,000 tons and a daily icemaking capacity of 7,100 tons. Some cold storage has been also built in inland areas. The annual production by these cold storage plants of more than 1 million tons of ice plays a definite role in preserving the freshness of aquatic products, as fishing boats carry the ice out to sea.

Eighth, we have explored the possible development of fishbreeding endeavors in the Yellow River basin. Since the establishment of the People's Republic, a fairly great development of the freshwater fishbreeding industry has taken place in the Yangtze and Pearl River basins, and the freshwater fish breeding industry has also begun to develop in the Heilongjiang River basin in the northeast. In the Yellow River basin, the second greatest river in our country, however, development of a freshwater fishbreeding industry has not amounted to much. Therefore, it is necessary to investigate and study the test establishment of various centralized integrated freshwater commodity bases, and to explore avenues for the development of freshwater fish propagation in the Yellow River basin, in an effort to have greater development during the 1980's.

Ninth, there has been an intensification of fishing industry research work and training of scientists and technicians. In order to increase the level of our country's scientific research and hasten the spread of the results of research, we have revived some aquatic product research organizations, as needed, in a nationwide pattern of distribution. These are

now being readjusted and restructured in order to change points where research work and development of the fishing industry are not in conformity. At Lake Tai, in Jiangsu Province, we have set up the Lake Tai Aquatic Products Reproduction Base, and we are preparing to set up a Bohai Aquatic Products Reproduction Base in Bohai. In an effort to concentrate our forces to restructure existing educational institutions concerned with aquatic products, our country now has 17 aquatic products institutions of higher learning and secondary technical schools, as well as some others set up in aquatic product organizations and special industries. Additionally, each locale has formulated rules and regulations and adopted various methods of incremental rotational training of aquatic products cadres and fishing industry technicians so as to increase the level of technology and management.

Question: Please tell us about the situation in the fishing industry this year and for its future development.

Answer: In order to protect inshore resources, we readjusted operations last year, reducing the amount of trawling, and resorting to more seining, drift netting and angling. This hurt some production, and catches were over 340,000 tons less than they were in 1978, but there was an increase in the proportion of economic types of fish, a decrease in the number of miscellaneous small fish, an increase in the quality of fish and an increase over last year in the number of fish that met standards for export. Output of freshwater fish nationwide last year reached 1.116 million tons--an increase of 57,000 tons over 1978; this was a 5.4-percent increase and the highest level ever recorded. This trend generally met the requirements for protection of resources, development of breeding and increase in quality.

While keeping protection of aquatic product resources in mind, ocean catches this year remained generally stable at last year's levels. During the spring and winter fishing seasons, the fishing industry scored bumper harvests in the Tongking Gulf of the Guangxi Autonomous District and in the Eastern Sea opposite Zhejiang Province. For example, in Zhejiang Province, which is the principal region in our country for hairtails, 285,000 tons of hairtails were caught during the winter fishing season, a 30-percent increase over last year's winter fishing season catch. Hairtails accounted for the largest catches during the winter fishing season in Zhejiang Province, with catches amounting to 40 percent of the total fish caught throughout the province. Furthermore, the quality was better and the individual weight of the hairtails was higher. Mass enthusiasm for the breeding of freshwater fish was very high, and output was quite good.

The natural conditions for the development of aquatic products in our country are very good. We have a long coastline, and waterplants in inland waters are plentiful. Additionally, during the past few years a lot of water-conservancy projects and catchments have been built. Since

the founding of the People's Republic, aquatic product endeavors have seen rather great development. At the moment, more than 70 percent of all sea catches come from mechanized fishing craft. Large fishing industry bases have been built in more than 10 locations along the seacoast, and medium and small fishing ports have been built in more than 60 places. The annual fishing boat construction capacity is more than 150 craft and more than 1,000 mechanized junks.

The freshwater breeding area is now more than 10 times what it was immediately following liberation, amounting to more than 40 million mu. This is 54 percent of the total fishbreeding area of somewhat more than 75 million mu, and freshwater fish breeding here amounts to 70 percent of the total. Though great growth in both ocean and freshwater breeding has taken place since liberation, the untapped potential for both is still very great.

In terms of the collective fishing industry, there are currently more than 310 fishing communes throughout the country, and more than 17,000 fishing production teams with a labor force of more than 2.6 million persons engaged in fishing. There are more than 3,000 state-owned aquatic product enterprises with more than 200,000 people in them.

There are more than 10 directly subordinate aquatic product research units, with a total of more than 2,000 technicians. There are more than 20 aquatic product institutions of higher learning and technical secondary schools with more than 1,500 teachers and more than 6,000 students. In terms of both manpower resources and untapped potential, development prospects are very great.

Along with progress in the readjustment of our country's national economy has come the steady adoption of measures to strengthen the fishing industry. Every trade and profession have rendered vigorous support to the fishing industry. All we need do is conscientiously implement the party's and the State Council's work programs and policies for rural villages, do a better job of acting in accordance with objective natural laws and economic laws, give full play to the superiority of our country's aquatic products, and then, through readjustment and restructuring, our aquatic product endeavors will be able to attain stable and continuous development.

Question: Please tell us about the export of aquatic products.

Answer: In recent years our country has set up 10 aquatic product bases in Guangdong, Zhejiang, Fujian, Jiangsu, Shandong, Hebei and Guangxi for the breeding of shrimp, pond fish, oysters, eels and scallops. These aquatic product bases have played an active role in assuring stable quality, markets, suitability for marketing and a source of supply for the export of aquatic products. Last year the increase in our country's exports of aquatic products brought in one-third more foreign exchange

than in 1978, creating the highest level in history. The principal aquatic products exported were pond fish, miscellaneous live fish, shrimp, Pacific herring, jellyfish skin and eels.

In order further to develop the export and import trade in aquatic products, the state and the regions have rendered assistance this year in many areas of endeavor so as gradually to have aquatic products under a unified plan that will enjoy good sales in international markets and bring in a high rate of foreign exchange. As our country's aquatic products efforts grow and develop in the future, prospects for aquatic product exports will become wider and wider.

Our country's marine products [situation] is still comparatively backward, and in order to hasten growth of our country's aquatic products endeavors, we still have to learn from foreign countries and import advanced technology and advanced equipment. We also welcome various forms of joint capital ventures from every country and the development of economic and technical cooperation with us.

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USE OF AZOLLA AS FERTILIZER INCREASING

Beijing RENMIN RIBAO in Chinese 4 Jun 80 p 4

[Article by Liu Zhongzhu [0491 0022 2691]: "Azolla--Effective Source of Nitrogen for Paddy Fields"]

[Text] Azolla (or red duckweed as it is called) is an aquatic pteridophyte. China has extremely abundant azolla resources, and the cultivation of azolla has a long history. Following Liberation, a systematic study of azolla was undertaken, and during the last 2 years the introduction of fine green duckweed has given impetus to the development of duckweed cultivation. Red duckweed is a source of nitrogen for paddy fields that has received more and more serious attention.

In nature, azolla grows together with cordate houttuynia (*Houttuynia cordata*). The cordate houttuynia depends on the carbon supplied by the azolla to fix nitrogen from the air, which the cordate houttuynia uses. Cordate houttuynia that grows together with azolla possesses a nitrogen fixing capacity that is more than 10 times greater than that of cordate houttuynia when grown independently. Azolla possesses a strong nitrogen fixing capacity; it grows rapidly; and its output is high. Air-dried azolla's nitrogen content is between 2 and 3 percent, the maximum being around 4 percent. When conditions are right, azolla can double its growth within 3 or 4 days. For every mu of azolla, which amounts to from 600 to 800 jin in the springtime, more than 2,000 jin of fresh azolla may be harvested within 15 to 20 days. (In the case of fine green duckweed, it can run to from 5,000 to 6,000 jin.) Its nitrogen content is equal to that of about 30 jin of ammonium sulfate. It is consequently called a "natural chemical plant." When azolla is put on paddy fields, a 10 to 20 percent increase in paddy rice usually results, and on infertile fields in mountainous regions, a 20 to 30 percent increase may result.

Azolla also contains phosphorous, potassium, and abundant organic material. It is noticeably more effective than Chinese milk vetch in transforming soil. One season's growth of azolla increases the organic matter on the surface layer of paddy fields by about 0.3 percent.

Air-dried azolla contains about 20 percent crude protein, about 20 percent crude fat, and about 10 percent crude fiber. It makes a fine green feed, which is used in some places to feed hogs, chickens, ducks and fish with pretty good results.

Additionally, azolla is very effective in reducing pollution, in improving the quality of water and in the production of methane gas.

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NATIONAL

BRIEFS

NORTHWEST HOG CONFERENCE--The Northwest Hog Breeding Scientific Research Coordination Conference was recently held in Pingliang County, Gansu Province. The participants summed up and exchanged results of scientific research on improving hog strains and set forth the 1980-1982 plan for conducting scientific research coordination among the five provinces in Northwest China. [SK120727 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 10 Sep 80]

CSO: 4007

BEIJING VEGETABLE SITUATION IMPROVED IN JULY

Beijing BEIJING RIBAO in Chinese 26 Jul 80 p 1

[Article by Wu Jingchong [0702 2529 1504]: "Vegetable Farmers in Beijing Suburbs Persevere in Combating Calamities To Reap a good Harvest in Spring-Sown Vegetables; Change for the Better in the Supply of Vegetables in this City"]

[Text] Since early June, the vegetable shortage in this city has taken a turn for the better. Now, quite a few vegetables are piled up in every vegetable shop. Varieties are complete, and prices are fairly reasonable. From January through May of this year, the supply of vegetables in this city was rather short. In order to reverse this passive situation, the Municipal CCP Committee and the municipal government enhanced leadership over vegetable production and set up a municipal vegetable science and technology advisory group to give technical guidance. Simultaneously, they called upon the broad masses of cadres and vegetable farmers in vegetable-producing areas to use all manner of means to triumph over natural calamities of all kinds to win a good harvest from vegetables planted in the spring.

After the vegetables were sown this spring, a cold snap occurred, and the broad masses of cadres and vegetable farmers sought ways to increase the soil temperature. After mid-June, the air temperature suddenly shot up and precipitation was less than in former years, with the result that fruity vegetables such as tomatoes became diseased. Thanks to timely watering, application of fertilizer, use of pesticides and an intensification of field care, a fairly good crop was obtained from the spring planting of vegetables.

During June, more than 170 million jin of vegetables of various kinds were sent to markets throughout the city--an increase of 3.2 million jin over the same period a year ago. Of the total, more than 84 million jin of melons, fruits, and pulses, which the urbanites much like, were marketed for a 58.2-percent increase over the same period last year. More than 16.2 million jin of tomatoes reached the markets--an increase of 5.6 million jin over the same period last year. Eggplants sent to market

total 6.9 million jin, an increase of 3.9 million jin over the same period last year. Cucumbers sent to market amounted to 38 million jin, a 13-million-jin increase over the same period last year. Kidney beans marketed amounted to 15 million jin, an increase of 6.5 million jin over the same period last year. During July, the quantity of vegetables of all kinds sent to market continued to increase. During the first and second 10 days of the month alone, more than 170 million jin of various vegetables were marketed, an increase of almost 9 million jin over the same period last year. Of this amount, more than 150 million jin consisted of melons, fruits and pulses, an increase of 17.4 percent over the same period last year. Such a large quantity of melons, fruits and pulses has rarely been marketed during the past several years. Now the vegetable markets are quite well stocked and varied.

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CSO: 4007

PAY HEED TO ECONOMIC BENEFITS OF ANIMAL HUSBANDRY

Beijing BEIJING RIBAO in Chinese 22 Jul 80 p 2

[Article by Liu Fuhai (0491 4395 3189) of the Pinggong County CCP Committee Office: "Grasp Animal Husbandry but Pay Attention to Economic Results"]

[Text] Editor's Note: The problems raised in this article are of general application. Last year, this municipality's expense-to-income ratio for agricultural production was the highest in the country. Quite a few leadership comrades on the agricultural battle-front still do not possess a high degree of concern about this problem. They say: "In small suburban areas of big cities, where the level of agriculture is high, it is practically unavoidable to have expenses that are a little high. Just as long as the city can be taken care of, that's all right." Such "taking account only of the political without taking account of the economic" has to change. We must strive to derive the greatest economic benefits possible at the least possible cost, in order to provide the capital city with agricultural sideline products to the best of our ability, and to make the collective and the commune members prosperous in the shortest possible time.

Quite recently, I made a survey and analysis of the accomplishments in animal husbandry and agriculture in Pinggu County for the 2 years 1978 and 1965. I feel there is a problem that should arouse the highest degree of attention from leadership comrades at all levels in rural villages, and this problem is that attention must be given to the economic achievements of production in agriculture and animal husbandry in the same way that attention is paid to business enterprises.

Both 1978 and 1965 were quite good years for production in agriculture and animal husbandry in Pinggu County. They were very comparable years. A comparison of 1978 with 1965 shows that total grain output increased by

76 percent and average yields per mu doubled. Cumulative raising of hogs doubled, and the number of slaughter hogs increased 1.4-fold. However, as reflected in economic achievements, there was no direct ratio. Net income for agriculture and animal husbandry increased by only 24 percent, while expenses doubled. In 1965, the cost-to-profit ratio was 1:2.25, and in 1978 it was 1:0.93. In 1965, average disbursements to commune members were 67.30 yuan. Following conversion, net profit from agriculture and animal husbandry for the entire county returned an excess of 2.04 million yuan for use in the expansion of further production. In 1978, average distributions to commune members were 114 yuan, and shared distribution amounted to 34.63 million yuan. In that year, however, net income from agriculture and animal husbandry was only 24.5 million yuan. This means that if all the net income from agriculture and animal husbandry were to be distributed, it would still not be enough, to say nothing of expansion of further production.

Was not the reason for this state of affairs the failure of leadership at all echelons to pay close attention to agriculture and animal husbandry, as well as grudging expenditure of effort and investment of capital in this direction? No, it was not. For 10 years and more, the slogan "Surpass 100 in cotton and surpass 1,000 in grain; greatly develop pigraising endeavors" was shouted loudly throughout the county. Between 1971 and 1979, investments of capital construction funds for farmlands and water conservancy throughout the county (only the state portion being counted, and not including the amounts put up by communes and brigades themselves) amounted to 19.69 million yuan. In 1977 and 1978, the state alone invested 2.1 million in the construction of mechanized and semimechanized hog farms and chicken farms. A comparison of 1978 with 1965 shows that expenditures for chemical fertilizer throughout the county rose from 6.30 yuan to 19.20 yuan per mu of collective farmland. Expenditures for hydroelectric power rose from .50 yuan to 2.82 yuan. Farm machinery expenditures rose from .31 yuan to 4.64 yuan. Expenditures for pesticides rose from .39 yuan to 1.20 yuan. This shows that every echelon of leadership gave serious attention to production in agriculture and animal husbandry, investing large amounts of capital. The problem is that many county, commune and brigade leadership comrades frequently emphasized only grain production and the number of head of cattle--i.e., the so-called "loudly shouted" individual indicators--while neglecting net income, meaning profits, which are overall indicators reflecting production achievements.

What can be done to change the current situation? I believe it is most fundamental that every echelon of leadership have a correct business sense--i.e., they have to run communes and brigades in rural villages like business enterprises. Specifically I propose the following:

1. Give strict attention to the management of labor in order to increase labor productivity. Labor management is the core of all management on people's communes. Only by taking labor management in hand and increasing

labor productivity can good economic achievements be realized and the energetic management of other quarters be possible. Because management was done well in the Yuegezhuang Brigade of Wangxinzhuang Commune, they were able to fully tap unused potential in the labor force, and last year the average aggregate production capacity for each unit of labor was 2,100 jin of grain, 6,800 jin of vegetables, 1.7 head of slaughter hogs, 45 jin of fresh eggs, 34 force-fed ducks and a net income of 436 yuan from sideline enterprises. If most of the production teams throughout the county were able to reach the levels attained by those of Yuegezhuang, imagine the economic achievements that could be made! This year, a majority of the basic accounting units throughout the county have set up systems of responsibility for production of one kind or another, and this is a fine beginning. Institution of the method of "work team responsibility for labor, for output, and for expenditures, with awards for excess production and conservation in expenditures," is more beneficial to the attainment of better economic achievements.

2. Adoption of decisive measures for a resolute reduction of expenditures. One of the major reasons for poor economic achievements is that most places pyramid the money used for grain output. In the case of farm machines and draft animals, for example, in 1978 various kinds of farm machinery totaling 190,000 horsepower were in use in rural villages throughout the county, for a 19-fold increase over 1965. Nevertheless, the number of mature draft animals was still what it had been in 1965. In 1978, expenditures throughout the county for farm machinery and draft animals totaled 4 million yuan. This was 15.2 percent of total expenditures for agriculture and animal husbandry, and 16.3 percent of net income for agriculture and animal husbandry. It amounted to a 1.02-fold increase over 1965. On the basis of the foregoing, I wonder if it might not be possible to use a system of "control, reduction and halting" to reduce expenses for farm machinery and draft animals. By control is meant a reduction in the normal use of farm machines, particularly their use for nonproductive purposes, through restrictions on the use of fuel for farm machines. By reduction is meant as much of a decrease as seems possible in the number of mature animals. By halting is meant halting the use of some excess tractors, or halting their use year round or in a particular season. Thus, if in a year like 1978, expenditures could be reduced by 10 percent, a saving of 400,000 yuan would result. During 1978, expenditures for fertilizer throughout the county were 19.2 yuan per mu, while at Yingcheng Commune they were only 16 yuan. If other communes were able to reduce expenditures to the level achieved by Yingcheng Commune, more than 1.2 million yuan could be saved throughout the county in a single year.

3. Careful attention to economic crops, and tapping of unused potential in output and profits. Net income from economic crops should be vastly greater than that from grain crops. Nevertheless, for the past several years this is not the way matters have been in Pinggu County. In 1978,

the average gross income per mu throughout the county was only 53 yuan for 87,000 mu of economic crops. This was 68.72 yuan less than the gross income per mu of grain for the same year, and 22 yuan less than the average gross income per mu of economic crops in 1965. If average gross income on economic crops were to amount to 100 yuan per mu, in terms of the 1965 ratio of expenditures, the whole county could have a net increase of 1.54 million yuan.

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CNO1 4007

BRIEFS

RURAL CONSTRUCTION--Recently, the Fujian Construction Committee and the Fujian Agricultural Office jointly held the first conference on housing construction in the countryside. Participants at the conference were urged to speed up housing construction in the countryside. The party and government organs at all levels must strengthen leadership, improve the peasants' standard of living, close the gap between the cities and countryside and consolidate the worker-peasant alliance. At present, it is necessary to pay very serious attention to implementing policy and give full play to the two activism of the commune members and the collectives. The collectives' houses can be rented or sold to the commune members. It is also necessary to pay attention to the areas given over to housing so as not to occupy farmland. [HX041216 Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 28 Aug 80]

REPORT ON SUGARCANE--At present, 650,000 mu of sugarcane in Fujian is coming along well. This year, the area sown to sugarcane throughout the province was increased by 30,000 mu. Despite drought and typhoons since the beginning of the summer, the growth of sugarcane has been encouraging. An on-the-spot meeting on sugarcane tending was recently held in Xianyou County. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 31 Aug 80]

CSO: 4007

BRIEFS

LESS RAIN--The distribution of precipitation in Gansu Province during August is as follows: Rainfall measuring over 20 millimeters was reported in the Hexi mountainous areas with the exception of the areas around the Qilian Mountain. Rainfall measuring about 30 millimeters was reported in Lanzhou municipality, Gaolan, Jingtai, Jingyuan, Yongjing and other counties. The amounts of rainfall in Yongdeng, Yuzhong, Jingndt Wen, Gulang, Guanghe and other counties were from 40 to 60 millimeters. The amounts of rainfall in Gannan Tibetan Autonomous Prefecture, the southern parts of Qingyang and Linxia Hui Autonomous Prefectures and most parts of Pingliang Prefecture exceeded 70 millimeters. The amounts of rainfall were less than that in the previous corresponding periods. As a result, signs of drought appeared in the counties around Lanzhou municipality and autumn crops in many parts of the province were affected in varying degrees. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 6 Sep 80]

CSO: 4007

COMMUNE, BRIGADE INDUSTRY BENEFITS PEASANTS, STATE

Guangzhou NANFANG RIBAO in Chinese 17 Jul 80 p 2

[Article by Tang Zhenyang (3282 2182 7403), Huang Jianchuan (7806 1696 1557), and Xing Yisen (6717 4135 2773): "Commune and Production Brigade Business Enterprises Grow; Peasants Directly Benefit; State Tax Revenues Increase as Qionghshan County's Financial Departments Support Commune and Brigade Development of Agricultural Sideline Products Processing Industries"]

[Text] Bearing down on the central task of making the peasants prosperous with all possible speed, the Qionghshan County financial departments, in concert with other units, have taken the initiative to support commune and production brigade development of agricultural sideline industries engaged primarily in the processing of local resources, so that the farmers will directly benefit, and the state's tax revenues will constantly increase. Last year total profits from commune and production enterprises throughout the county amounted to 2.21 million yuan, an increase of 16.3 percent over the previous year. Tax revenues paid to the state amounted to more than 918,000 yuan.

In the wake of the Third Plenary Session of the 11th CCP Central Committee, the Qionghshan County financial departments diligently summarized the lessons of past experience in support to agriculture, and realized that financial support to agriculture also had to adjust methods to local situations, and adapt to the local economic structure. Thereupon, they seized upon the clever method of concentrating their major financial resources to emphasize support to commune and brigade development of processing industries for local resources as a way of promoting production and increasing wealth, helping the poor to become rich. Last year, the financial departments disbursed a total of more than 1.3 million yuan to 27 communes and 1/3 of the production brigades in the county for new construction and expansion of sideline industries engaged mainly in processing. Currently communes and brigades throughout the county are operating rubber, flower fragrance, lemon grass, black pepper, coffee, tea leaf, fruit, sweets, oils, nonstaple food, brick, lime, wooden articles, hide tanning, cane pressing, paper manufacture, and farm machinery processing industries in 415 business enterprises.

The Qionghashan County financial departments have given attention to adjusting methods to local situations and giving diversified guidance to help every local jurisdiction use its local resources and other conditions to the full, making every effort to make small investment bring quick results, and large benefits. Rubber resources are plentiful in the Sanmenpo Commune where the county financial departments in April of last year invested 32,000 yuan to help that commune build a rubber sheet processing plant. As of April this year, it had produced a total of 61 tons of rubber sheets for a profit of 80,000 yuan. The Tanwen Commune is a grain producing area with few people and lots of land. Taking advantage of the favorable situation of lots of land, the financial departments helped the commune to grow more than 1,290 mu of flowers on both wet and dry fields, and to build a flower oil refining plant. During the last half of last year, it had revenues of 300,000 yuan. The Hongqi Commune has a lot of hilly land, which it has customarily used for the growing and processing of lemon grass. The financial departments helped them expand their lemon grass processing industry, and last year total output value for citronella oil amounted to 630,000 yuan, accounting for 62 percent of total income for the entire commune's agricultural sideline products. It increased state tax revenues by 28,000 yuan. It has become the commune producing the largest amount of citronella oil on all Hainan Island.

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CSO: 4007

SCIENTIFIC OCEAN FISHING INCREASES CATCH

Guangzhou NANFANG RIBAO in Chinese 17 Jul 80 p 2

[Article by Tang Zhenyang (3782 3182 7403) and Shi Fangkao (0670 2455 5072): "Scientific Fishing Nets High Output for Five Years in a Row; Number 5 Fishing Boat Detachment of the Nanhai Aquatic Products Company Combines a Revolutionary Spirit and a Scientific Attitude for Remarkable Accomplishments in Catching Fish; Designated Numerous Times as an Advanced Unit in the Aquatic Products System"]

[Text] The Number 5 Fishing Boat Detachment of the Nanhai Aquatic Products Company, which has persevered in scientific fishing to create high output, has for 5 years been able to fulfill fish catching plans ahead of schedule year after year despite continuous annual losses by the company. During the past 5 years it has turned over to the state profits of 1.178 million yuan and has several times been commended by the central, provincial, and prefectural aquatic products system, as well as by the company, for being an advanced unit. This year it has again overfulfilled first quarter fishing plans ahead of schedule, tendering profits of 32,000 yuan.

This detachment was organized in 1975 and now has six 150-ton, 400-horsepower trawling boats with cadres and crewmen numbering 125 persons. During recent years, as a result of reckless fishing which permitted the fish no rest or replenishment, the inshore fishing industry resources in the Nanhai were damaged. This, plus abnormal weather on the sea, caused rather great changes in the varieties of fish, and the quantity of ocean fish catches showed a marked decline. How can both growth in the ocean fishing industry be accomplished while preserving fishing industry resources at the same time? The Nanhai Aquatic Products Company's No 5 Fishing Boat Detachment probed the laws governing ocean fish, adhered to scientific fishing practices, and closely combined a revolutionary spirit with a scientific attitude to reap rather good economic benefits in the ocean fishing industry.

The No 5 Fishing Boat Detachment lay emphasis primarily on the following three links:

1. Analysis of all fishing information to increase fishing performance. For many years the No 5 Detachment persisted in analysis and study of the meteorological conditions, seasonal winds, water temperatures, ocean currents, direction of trawling, speed of trawling and kinds of catches in the fishing grounds, and adopted measures commensurate with findings to catch fish. During one trip, one of their fishing boats was not getting very high catches at first in the fishing grounds of eastern Guangdong. They subsequently carefully analyzed the catches and their trawling methods, discovering that most of the fish in their catches were dead hairtails, and that there were also quite a few hairtails that had been impaled on the outside of the nets. Using this information, They made the judgment that the death of a large number of hairtails meant that the hairtails had entered the net rather early, and the hairtails impaled on the outside of the nets meant that in the course of trawling the mouth of the nets were not sufficiently open at the bottom of the sea. Once they discovered the reasons for the catches not being high, they turned the boat around and trawled again over their original route, making appropriate increases in the buoyancy of the mouth of the nets to make them float higher. As a result, per net catches rose from 28 dan to 80 dan, and hairtail catches for a single trip amounted to 73 tons to break the record for catches from a single trip.

2. Proper selection of fishing grounds, and rotation from one to another. There are many varieties of fish in the Nanhai, but schools are not big and the areas they inhabit are more or less stable. As a result of changes in the ocean, the No 5 Detachment instituted overall planning and rotation of operations. In general, they operated during the first and fourth quarters in northern bay areas, during the second quarter to the southwest of Hainan Island, or in southeastern or southern ocean areas, and during the third quarter, they either returned to northern bay areas, to the northeast, or to the area east of Guangdong Province. They also mostly put out to the deep sea, rarely fishing in shore, and frequently they went to places where the sea bottom was complex, and to fishing grounds that fishing boats rarely visited, actively opening new fishing grounds. By so doing, when resources were exhausted in some places, they were still able to maintain high output of superior quality while at the same time allowing the fish to recuperate and multiply to a certain extent.

3. Readjustment of fishing nets to increase catches. In May of this year, the No 11 boat of the attachment happened upon a school of large eyed porgies at the 533, 510 and 509 fishing grounds. Since the mouths of their fishing nets were not at the proper height to take in the thick mass of the school, catches were not high at first. So they fitted floats to the headropes at the mouth of the fishing nets, taking account of the drag and pulling force of the nets so as to increase buoyancy at the mouth of the nets. They also frequently checked the boat's position and analyzed the movement of the school of large eyed porgies, set out fixed buoys, and continued to fish in the middle of the fishing ground.

As a result of these actions, catches rose from an initial 20 dan per net to 60 dan. In three trips, 100 tons of fish were landed, and as of 7 May, this boat had completed its production quotas for the first half of the year with profits of 50,000 yuan.

For the past several years, the No 5 Detachment has continued to go to sea, vying with the direction of the winds and riding on their tails to use every minute and second to catch more fish. According to company regulations, under normal circumstances, time in port between sailings cannot exceed 72 hours. But the No 5 Detachment worked at readying the boats for another sailing even while returning to port. As soon as the boats reached port, both cadres and crew worked together to wash the holds and replenish supplies. As a result, none of the boats remains in port longer than 36 to 48 hours before putting to sea again, and some remain in port only 12 to 24 hours. They also carry out operations in high winds, and they fish at night. According to statistics, in the course of the past 5 years, quantity of fish caught at night has amounted to 6,848 tons, or 31 percent of total catches. As a result of improved management and the practice of economy, during the past 5 years, they have saved the state a large amount of material, and costs have been reduced drastically, with average costs per ton of fish being 258.77 yuan, 46.4 percent lower than for the company as a whole.

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CSO: 4007

XINGNING COUNTY POND FISH OUTPUT INCREASED

Guangzhou NAI/FANG RIBAO in Chinese 17 Jul 80 p 3

[Article by Liao Qixin (1675 0796 2450): "Pond Fish Output Potential Great; Dongyi Production Team of Xingning County Institutes Scientific Raising of Fish With Per Mu Yields of Pond Fish Exceeding 2,000 Jin"]

[Text] Editor's Note: The sudden increase in per mu yields of pond fish from 800 to 2,050 jin at the Dongyi Production Team in Xingning County has demonstrated that a great potential exists for the development of pond fish output.

There are more than 1 million mu of fish ponds in Guangdong Province, and more than 3 million mu of mountain pools, but pond fish output is currently not high. If we could do as the Dongyi Production Team has done in setting up a system of responsibility welcomed by the masses, use policy to arouse the enthusiasm of those in charge of the ponds, and widely promote scientific techniques for raising fish, a large-scale increase in pond fish output in Guangdong Province would be entirely achievable.

The Dongyi Production Team of the Wenyi Production Brigade of the Ningtang Commune in Xingning County has obtained high outputs through scientific fish raising. Last year, on an area of 1.2 mu of fish ponds, total output of fresh fish was more than 2,400 jin, or an average output of 2,050 jin per mu, the best in the entire county.

The Dongyi Production Team's fish ponds used to produce annual yields of no more than 800 jin per mu because they were badly managed. But ever since 1969 when this team designated a commune member specially responsible for management of each fish pond, and implemented a system of responsibility using "grading of production with awards for excess production," the enthusiasm of the management personnel has grown to new heights; the level of scientific fish raising has steadily increased; and efforts have

been bent to achieve: 1) Reasonable mixing together of different varieties of fish in close proximity. Benefiting from the fondness of grass carp for green feeds, the fondness of variegated carp for floating animal life, the fondness of silver carp for floating plant life, dace's choice of bits and pieces of organic matter and floating plants as its food, the liking of black carp and common carp for snails and the bivalves, *Corbicula leana*, the team comingled different numbers of grass carp, variegated carp, silver carp, dace, black carp, and common carp, putting them together closely in the same ponds, making sure that each variety of fish was able to get the kind of food it needed so that each variety put on weight equally. 2) Putting fish into the ponds at different times and catching them at the proper time. Various kinds of fish fry were put into the ponds according to the season, usually three times annually, namely in February, March and September when individual varieties were released just once in any given month. During the first two times, mostly grass carp, variegated carp, and silver carp were released with an appropriate comingling of some black carp and common carp. At a later time, more grass carp, variegated carp, and silver carp were released, plus a certain number of dace. After the fish had reached a definite weight, fishing began. Large ones were taken and small ones left. As fishing progressed, so did release of more fry into the pond so that large, medium, and small fish of three generations occupied the pond at the same time. The fish also lived together in the top, middle, and lower levels of the pond. All year round as fish became available for catching, the density of the number of breeding fish increased, and conditions were thus created for a high output of fish. 3) Scientific feeding and institution of the "four fixed's." In order to insure that the fish got enough to eat, ate well, and put on weight rapidly, they provided feed of the kind each variety of fish liked at fixed times, in fixed amounts, of fixed quality, and at fixed places while taking account of the season of the year, the climate, the water temperature, and the quality of the water. During spring and summer, for example, they cut green grass and fish-dredging madder [laoyuqian 2318 7625 5409] for feeding. During the fall and winter season, when green feed was rather scarce, they used young sweet potato plants, cassava leaves, yam bean leaves, and ox and pig dung to take its place to make sure that sufficient feed was available in every season of the year and that the fish had balanced growth. 4) Reasonable amount of draining and replacement of the pond water to prevent disease and escape of the fish. Depending on the different seasons and different climate, reasonable draining and refilling of the pond water was done, usually bringing fresh water into the ponds to assure that the water was clear, fresh, and contained sufficient oxygen to make sure that the fish lived normal lives. Every time it rained, ditches all around the fish ponds were cleared to prevent turbid, muddy water from flowing into the fish ponds, and bamboo blinds were stuck into the water ditches to let excess water drain away and prevent the pond water from overflowing the rim of the pond so that the fish could escape. During seasons when the fish were susceptible to diseases, they added natively produced farm chemicals to the water. In order to prevent outbreaks of

fish diseases, they drained the ponds periodically, and cleaned out the sludge. They also built an enclosure around the fish ponds to block off snake and rat burrows and to keep snakes and rats from harming the fish fry so that the survival rate of the fish was remarkably high. Because of the adoption of these effective measures, pond fish output increased year after year.

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CSO: 4007

UTILIZATION OF MOUNTAIN AREAS FOR LIVESTOCK DISCUSSED

Guangzhou NANFANG RIBAO in Chinese 17 Jul 80 p 3

[Article by Liu Junyue (0491 0971 6460): "Utilization of Grassy Mountains and Grassy Slopes To Develop the Livestock Industry"]

[Text] Grasslands are a major feed source for the development of the livestock industry. In view of current world trends in the development of livestock industries, development of grass-fed livestock is arousing more and more serious attention.

Guangdong Province, which is located in the tropics and semitropics where it is under the influence of the southeast monsoon winds all year long, and where rainfall is copious, is a good place for the growth of all kinds of plants. In Guangdong, per mu yields of fresh hay from fine quality grazing grasses that have been planted can amount to as much as 20,000 jin. High yields can amount to 35,000 jin of fresh hay per mu. According to incomplete statistics for agricultural programs, in addition to the more than 50 million mu of cultivated land throughout Guangdong Province, there are also 46.72 million mu of mountain wasteland, 10.7 million mu of undeveloped land and more than 1.87 million mu of sea beaches. A large area of mixed forest and pasture land has not been included. The 3 categories of uncultivated land total more than 59.29 million mu. For a long period of time it has not been possible to develop and use these barren and undeveloped lands, which amount to more than the area of cultivated land. If all of the more than 59.29 million mu of undeveloped and barren land were to be improved and put to use step by step, the entire province would have a total capacity for cattle of from 6.76 million to 12.89 million head.

In the past we lacked the research necessary for the development of grassy mountains and grassy slopes, so it was very difficult to put forward complete and specific ideas. In order to meet the urgent needs for production, merely a few problems are raised below for consideration:

(1) The problem of livestock capacity. Safeguarding grassy mountains is the best way of using grassy mountains. Unless the livestock capacity is

reasonable, overgrazing will result, and the grasslands will be destroyed. A pertinent report from Australia says that once the grasslands have been seriously damaged, from 2 to 3 years are required to restore normal production. Therefore, proper control over the livestock capacity is the key to insuring that grassland production remains normal. Grassy mountains and grassy slopes everywhere in Guangdong Province vary greatly in their output of grass as a result of the effects of various natural factors. Therefore, determining the livestock capacity is not something that can be done in a single stroke. The actual situation has to be taken into account and sensible use made of the land. The number of livestock and the distribution of types has to be decided after investigation and study on the basis of the amount of grass that can be produced. On the basis of the results of a study done by the Hainan Livestock Institute, a single ox requires 16,500 kilograms of grass annually. Figuring a 60 percent feeding ratio from green grass, for grassland producing 5,000 kilograms of fresh grass per mu per year, 5.5 mu of grass would be needed to raise a single ox. The passive situation of reliance on the heavens in raising livestock can be effectively overcome only by figuring the number of livestock on the basis of available grass.

(2) The problem of balanced grazing grass production and balanced nutrition. Looked at in terms of present reliance on natural grasslands to raise cattle, a universal situation of "full in summer, fat in fall, and skinny in winter" exists for livestock, which is far from an ideal way of putting weight on animals. This, plus the period when the grass withers in natural grasslands, and the single kinds of grass available is closely related to poor quality. The withered grass season results principally from the dry winter weather and the lack of wintering grasses. Consideration of the problem in overall terms requires additional sowing of suitable wintering grasses, such as Anshi No 1, in the grasslands. In prefectures south of Guangzhou, Zhuhua [2691 5363] grass (Brazilian alfalfa), which grows all year round, may be planted. Additionally, preparations should be made to store, on the basis of needs, the grass from the summer and autumn seasons of abundance. Only through a combination of the two can the problem be fully solved. In order that livestock will derive full nutrition from grazing grasses, it is necessary to give careful attention to the planting of legumes.

(3) The problem of management of natural grasslands. The main tasks in the management of grasslands are to prevent their deterioration, to maintain the vitality of the grazing grasses, and to steadily increase the productivity of the grasslands. In countries and regions with advanced livestock industries, rotation of grazing from one place to another is paramount. It is acknowledged that rotation of pasturage can increase output of the grasslands by 100 to 200 percent. In places where conditions are favorable, methods may also be adapted to situations, and locally available materials used for the planned fencing of areas to confine the livestock to designated areas for feeding. According to reports from abroad, a single enclosure can increase productivity 25 percent. After grazing lands have been divided, pasturing may be rotated according to a fixed schedule in one cycle after another. This method has numerous advantages both for increasing productivity of the grasslands and for management.

BRIEFS

PROTECTION OF ABALONE RESOURCES—Comrade Editor: The great decline during the past several years in abalone output on Naozhou Island in Zhanjiang Municipality merits serious attention. In the ocean waters to the northeast of Naozhou Island in Zhanjiang Municipality, and in the nearby numerous reefs, stormy waves are large, ocean plants abound, and the water is perfectly clear. It is a famous natural abalone ground. According to statistics from the local aquatic products authorities, average annual output here during the 1950's was more than 40,000 jin, which by last year had declined to less than 4,000 jin. The main reason for the decline in abalone output has been the reckless and unbridled harvesting of it without serious regard for preservation of resources. For example, the fresh abalone requisition-purchased last year by the Naozhou Aquatic Products Station were very small. Following the sun drying, the number weighing only 1 jin numbered more than 1,164. Abalone is delicious and is full of protein. It has been termed the "king of seafood." Abalone shells are also a fine medicine used in Chinese medicine for the treatment of eye diseases. It has been popularly termed "a stone with power over sight." Consequently, we should do well to propagate and protect this precious aquatic resource. This year as the abalone season approaches, I hope that the authorities concerned will strengthen leadership and pervasively propagandize on a grand scale the "Aquatic Products Propagation and Protection Regulations" promulgated by the State Council, and that they will also adopt some commensurate management measures so that harvesting of abalone at Naozhou will be done rationally. [Signed] Zhang Chaoqun [1728 2600 5028], Propaganda Department, Zhanjiang Suburban CCP Committee. [Text] [Guangzhou NANFANG RIBAO in Chinese 17 Jul 80 p 2] 9432

CROP REPORT--This year, the total output of early rice in Huiyang County increased by 150,200 dan over the corresponding period of last year. This was an increase of 12 percent. The average increase per mu was 40.5 jin. The total output of spring peanuts increased by 24,000 dan over 1969, which previously was the highest level, while the output of soybeans reached 27,000 dan. This was an increase of 8,000 dan over the corresponding period of last year. There are 8,000 production teams in this county. Tending of these crops this year was better than last year. [Guangzhou Guangdong Provincial Service in Mandarin 1120 GMT 18 Aug 80]

EARLY RICE--This year, the average per mu yield of early rice in Chaoyang County reached 810 jin. There were 430,000 mu of early rice in this county. The average per mu yield from 330,000 mu of Gui Chan was 837 jin. This was an increase of 110 jin per mu over other varieties. [HK0412247
Guangzhou Guangdong Provincial Service in Mandarin 1120 GMT 17 Aug 80]

NEW HYBRID LATE RICE--The new variety hybrid rice bred by the Xingning County Agricultural Institute, Shanyouke 30, is characterized by large panicles, numerous grains, and heavy grains. It has an 87.3 percent grain setting rate, and the per 1,000 grain weight is 27.4 grams. Assessment by the Provincial Agricultural Institute authorities acknowledged it to have strong photosensitivity and weak temperature sensitivity, to be early ripening, high yielding, suitable for planting as a late crop, and desirable for extended cultivation. The illustration shows technicians from the institute in the seed field analyzing the grain setting for the new variety. [Text] [Guangzhou NANFANG RIBAO in Chinese 16 Jul 80 p 1] 9432

CSO: 4007

BRIEFS

EARLY RICE HARVEST--Guangxi Regional reaped a bumper harvest of early rice this year. The total production amounted to 11.73 billion jin, showing an increase of 2 percent compared with the same time last year. The region was able to reap a bumper harvest because all areas had done well in giving play to their strong points and avoiding shortcomings, and in raising the standard of scientific cultivation. There were droughts in some areas of Guangxi between last winter and spring this year. For instance, in the southern part of Guangxi, rainfall in May decreased by 20 to 40 percent compared with the previous years and rainfall in the period from January to March decreased by over 50 percent. Despite the difficulties brought about by natural disasters, everyone in Guangxi worked hard to fight drought and implement the relevant policies on agriculture, and reaped a bumper harvest of early rice. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 23 Aug 80]

EARLY RICE OUTPUT--After achieving a record output in total and per-mu yield last year, Guangxi Zhuang Autonomous Region reaped another "bumper harvest" from its early rice this year. This year's total output exceeded that of last year by two percent. Transplanting of late rice is virtually completed and the seedlings are growing well in general. [Text] [Beijing RENMIN RIBAO in Chinese 22 Aug 80 p 1]

CSO: 4007

BRIEFS

AFFORESTATION REPORT--Heilongjiang Province has assigned some 6.4 million mu of state-owned forest land for communes and brigades to plant trees. More than 2,172 commune and brigade-run forest farms have been established in the province, and each farm has its own nursery plots. About 3.1 million mu of barren hills and wastelands in Heilongjiang Province need afforestation. In view of this, the Heilongjiang Provincial People's Government has readjusted the present forestry policy and decided that, on the principle of not disrupting rational management of state-owned forestry farms, communes and brigades may plant trees on barren hills, wastelands and small, scattered forest lands surrounding their households. Brigades are generally permitted to plant trees on 1,000 mu of land and communes on 10,000 mu of land. It is expected that all wastelands and barren hills in Heilongjiang Province will be afforested in 5 years. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 4 Sep 80]

FARM MECHANIZATION--With the approval of the Heilongjiang Provincial People's Government, the Hejiang, Nenjiang, Mudanjiang, Songhuajiang and Suihua Prefectural Institutes of Farm Mechanization were recently changed into five specialized institutes: Institute of Mechanized Processing of Farm and Sideline Products, Institute of Animal Husbandry Mechanization, Institute of Paddy Field Mechanization, Institute of Cash Crop Mechanization and Institute of Farm Machinery Utilization. They are now under the direct control of the Provincial Institute of Farm Mechanization. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 8 Sep 80]

FORESTRY MEASURE--In order to ease energy and firewood shortages, the Heilongjiang Provincial People's Government has decided to allot, beginning this autumn, 3 mu of land for every rural household to build firewood and charcoal forests. Thus, there should be 10 million mu of firewood and charcoal forests in rural areas within 3 or 5 years. At an 8 September telephone conference, the Provincial Forest Administrative Bureau implemented specific plans for forest departments at the prefectural, municipal and county levels. [SK110942 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 9 Sep 80]

WHEAT PROCUREMENT--As of 11 September the Heilongjiang Provincial State Farm Administrative Bureau had overfulfilled the annual wheat procurement plan by 290,000 jin. This accounts for 80 percent of the total amount of wheat procured by the province, setting a new state-farm record in handing wheat over to the state. Top-quality wheat accounts for 90 percent. More than 100 state farms subordinate to the Provincial State Farm Administrative Bureau reaped a bumper harvest of spring wheat on 14.8 million mu of wheat-fields. It is expected that this year's gross wheat output will increase 20 percent over that of 1979. [HK120729 Heilongjiang Provincial Service in Mandarin 1100 GMT 11 Sep 80]

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BRIEFS

RICE PLANT INSECTS--A short commentary on Hubei Radio revealed that the people in Hubei have experienced rain over a long period since the beginning of August accompanied by high temperature and humidity. Such a climate is very suitable for the propagation of rice leafhoppers and leaf rollers that feed on rice. In many areas, this threat is very serious. At present, annihilation of the fourth generation of brown leafhoppers is the key to reaping bumper harvests of midseason and late single crop rice. If this is not grasped well, it will affect the production of the late double-cropped rice. Therefore, from now until early September, all areas must adopt shock prevention for midseason and late single crop rice. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 29 Aug 80]

CSO: 4007

BRIEFS

TRAINING OF CADRES--In the past two years, many farm technicians and cadres specializing in agriculture, forestry, irrigation, farm machines and/or meteorology went through training in Hunan. The total number attending exceeded 528,000, including 189 cadres at above-county levels. [Beijing GUANGMING RIBAO in Chinese 12 Aug 80 p 2]

PREFECTURE FLOODS--In early and mid-August, the people in Yiyang Prefecture experienced rainstorms on many occasions. Some 990,000 mu of farmland including 820,000 mu of late rice was flooded throughout the prefecture. Some reservoirs, dams, ponds, small hydroelectric power stations, bridges and houses were also damaged. Recently, the Prefectural CCP Committee has transferred personnel from the military subdistrict, the civil administrative bureau and public health units and organized them into three comfort groups to go to Taojiang, Nan and Yiyang counties, where the situation was most serious. The government has allocated 185,000 yuan of relief funds, 200 cubic meters of timber and bamboo and other materials to help the afflicted people to rebuild their homes. In Taojiang County, 210,000 mu was affected including 140,000 mu of late rice. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 21 Aug 80]

PREFECTURE CATTLE--There are now 98,000 cows in Xiangxi Autonomous Prefecture. This is an increase of 15,100 head over 1978. The prefecture strictly forbids the slaughtering of cows that are suitable for breeding and encourages the raising of cows by private individuals while developing the number of collectively raised cows. At present, there are 1,400 cows raised by private individuals throughout the prefecture. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 26 Aug 80]

PRODUCTION RESPONSIBILITY SYSTEMS--The Hunan Provincial CCP Committee and Provincial People's Government recently decided to stabilize all forms of production responsibility systems during this year's summer harvest preliminary distribution. In their circular, they said that after discussion and agreement by the masses, some production teams whose production dropped due to natural disasters can properly adjust the systems and must resolutely implement them after adjustment. Where farm output quotas are fixed for each group, household and person, rewards should be given to those who strive to exceed their quotas, particularly those who greatly exceed them after working hard. At present, while carrying out summer harvest preliminary distribution, many places have organized cadres experienced in rural work into administrative teams, which will go to the countryside to help the masses stabilize and put on a sound basis all kinds of production responsibility systems. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 1 Sep 80]

CSG: 4007

COST REDUCTION IN FARMING REPORTED

Nanjing XINHUA RIBAO in Chinese 19 Jul 80 p 1

[Article by Zhang Songmou [1728 2646 5399], Xu Zhigang [1776 1807 0474], Qin Jingwu [4440 0079 0582], and Chen Renbo [7115 0088 3134]: "Wu County Gives General Implementation to System of Responsibility for Lowering Agricultural Costs. Gives Emphasis to Reduction of Costs as a Major Measure for Realizing Increased Income"]

[Excerpts] Initial results have been obtained from the first half year's general implementation of a system of responsibility for lowering agricultural costs in each of the communes and production brigades in Wu County. Between January and May, a decline of 1 percent over the same period last year occurred in agricultural expenditures. Apart from commodity fertilizer, family accumulated fertilizer, and seed, for all of which expenditures showed an increase, a marked reduction in expenditures took place for farm machine maintenance and repair, plastic sheeting, farm pesticides, and hydroelectric power. According to statistics from 10 production teams where cost accounting is being tested, during the first half year, agricultural expenses per mu of land declined an average 1.1 yuan. Lately an integration of anticipated distributions for the summer season has been underway throughout the county to arouse every commune and production brigade to undertake a complete examination of its system of responsibility for the reduction of costs, to summarize the lessons of experience, to further revise measures for increased output at reduced costs, and to promote fulfillment of the "three increases and one reduction" plan for the entire year.

With the Institution of Economic Analysis, Increased Production Can Reduce Costs

Wu County is a large grain producing county where the double and triple cropping area is large. Last year, total grain output broke 1.5 billion jin, and the amount of commodity grain it provided to the state exceeded 500 million jin. Along with the great increase in grain came a great rise in farm costs. Last year, per mu yields of grain were 116 jin greater than for the previous year, and per mu costs also increased by 10.7

yuan. Eighty-four percent of the earnings from increased production were consumed by costs. Some brigades even had decreased earnings on increased production. Therefore, the County CCP Committee instructed the broad masses of cadres and commune members, telling them a potential existed for increased grain output and that the potential for reduced costs was even greater. It also used the classical example of a comparison of accountings to find disparities and lay out the potential so that everyone could see that there really is a job to be done in the lowering of farming costs. They also pointed out that if communes where farming costs tended to be high were able to bring costs down to the average level of costs throughout the county, an expenditure of 5.68 million yuan in agriculture could be made with a reduction of 4.97 yuan per mu. Last year, Chefang Commune increased grain output by more than 11 million jin, and because of good management, the cost rate declined by 0.8 percent, with per mu costs being lower than the 10.4 yuan average for the entire county. Average disbursements to commune members increased by 36.29 yuan over the previous year. Last winter and this spring, the County CCP Committee used about 2 months time for the incremental training of more than 800 production brigade accountants and more than 8000 production team accountants in order to effectively solve ideological problems and concrete policy problems in the implementation of the system of responsibility for lowering costs. Throughout the county, 7,238 production teams, or 91.8 percent of the total number, set up and perfected a system of responsibility to reduce costs. The system of responsibility for cost reduction includes both provisions for awards and losses, with monetary awards for reduction of costs coming from the profits of commune and brigade business enterprises. Award money for cost reduction received by production teams is awarded to individual commune members on the basis of their work points. In order to intensify cadre responsibility, cadre work point supplements are closely linked to reduction of costs in a system of percentages based on "five increases and one reduction" whereby the amount of awarded work points is set for every individual. The greater the increased production and reduction in costs, the greater the supplements to arouse the cadres' enthusiasm for coming to grips with cost reduction.

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BRIEFS

DRIVE TO INCREASE AUTUMN HARVEST--A drive has been launched in Xuzhou Prefecture of Jiangsu to overfulfill the prefecture's production plan for the autumn-ripening crops. This year, 4.02 million mu of rice has been planted, an increase of 1 million mu over last year's. This is a major crop upon which the success of the current drive hinges. [Nanjing XINHUA RIBAO in Chinese 6 Aug 80 p 1]

CROP CONDITIONS, OUTPUT--Recent torrential rain, tornadoes, hail, cloudy and rainy weather, and low temperatures have adversely affected agricultural production in Jiangsu. First of all, the summer grain crops have suffered losses. Due to spoilage of harvested wheat, many communes and production brigades have failed to reap a bumper harvest although their crop yield was good. Consequently the fulfillment of their annual production plans now depends on the outcome of their autumn harvests. Secondly, the extended period of natural calamities also has brought about many difficulties in the struggle for a bumper harvest of the autumn-ripening grain, cotton and oilseed crops. However, despite the losses, the summer grain harvest was still a good harvest, second only to last year's "bumper harvest." Due to the timely measures taken by various areas to counter the effect of water-logging, the conditions of various crops now in the fields have improved, with some approaching or catching up with those of the comparable period for last year. Moreover, the harvest of early rice crop was also better than originally expected, with an increase in thousand-grain weight and a decrease in empty grains; increased output has been reported by many counties. [Nanjing XINHUA RIBAO in Chinese 11 Aug 80 p 1]

LATE RICE CULTIVATION--According to statistics issued by the provincial Agriculture and Forestry Department, Jiangsu had 9.15 million mu of late rice under cultivation, thus fulfilling 95 percent of its plan for a total of 9.6 million mu. Transplanting of late rice has been completed in most counties in the province. [Nanjing XINHUA RIBAO in Chinese 16 Aug 80 p 1]

AGRICULTURAL ZONING--After four months of work by scientific and research units concerned, Jiangsu has completed its first draft of a comprehensive report on agricultural zoning to provide scientific data for long-term planning and current agricultural production. This report has four parts:

general discussion; rational use of agricultural natural resources and improvement of production conditions; rational adjustment of farm production plans and ways to speed up production; and discussions on agricultural zoning, totaling 300,000 words. [Nanjing XINHUA RIBAO in Chinese 16 Aug 80 p 1]

SILKWORM COCOON HARVEST--As of August 12, Jiangsu harvested 85,895 dan of summer silkworm cocoons, a 9.4 percent increase over last year's 78,506 dan. Earlier this year, Jiangsu also achieved a bumper harvest of spring cocoons. [Nanjing XINHUA RIBAO in Chinese 20 Aug 80 p 1]

CSO: 4007

JILIN

BRIEFS

SIDELINE OCCUPATION LOANS--Rural credit cooperatives in Jilin Province had granted 15.47 million yuan to commune members as sideline occupation loans during the January-July period. The money was mainly used by commune members to raise cattle, sheep, hogs and bees. By the end of July, savings deposits in rural areas had reached 237.64 million yuan, a 20.7 percent increase over that at the beginning of this year. [SK070246 Changchun Jilin Provincial Service in Mandarin 1100 GMT 5 Sep 80]

CSO: 4007

BRIEFS

MARKETABLE GRAIN BASES--The Liaoning Provincial Agro-Technique Inspection team composed of agricultural experts and professors inspected the province's marketable grain bases in the central areas from 11 to 12 August. After inspection they held a forum and made the following suggestions: 1) Emphasize grain and ensure the all-round development of agriculture, forestry, animal husbandry, sideline production and fisheries according to local conditions when building marketable grain bases, developing commune- and brigade-run enterprises and combining grain production with diversified economy; 2) expand sorghum and soybean fields and reduce corn fields without reducing the total output; 3) plant medium-ripening variety with early-ripening and late-ripening variety as supplement to counter low temperatures which caused crop losses in the past few years and strengthen seed-breeding bases; 4) change small ridge into large ridge, ridge seeding into flat seeding, row application of fertilizer into the spreading method and change interplanting of one crop with another when the latter is nearly matured into interplanting of crops simultaneously. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 7 Sep 80]

AGRICULTURAL MACHINERY MEETING--The Ministry of Agricultural Machinery held a meeting on 8 September in Gai County, Liaoning Province, to exchange experiences on reducing fuel consumption of farm machinery. The meeting was attended by representatives of 15 provinces, municipalities and autonomous regions in North China. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 8 Sep 80]

CSO: 4007

BRIEFS

CIRCULAR ISSUED--The Nei Monggol Regional CCP Committee and the People's Government issued a circular on 4 September calling for a meeting on production and disaster relief in late September or early October. The meeting urged all localities and departments concerned in the region to grasp the following work well: A) Strengthen people's education on the current regional situation to enable them to correctly deal with losses caused by disasters. B) Grasp autumn plowing, planting and harvest well and do a good job in storing fodder grass. C) Do a good job in solving difficulties by promoting production, encourage disaster-stricken areas to engage in industry and sideline occupations, organize commune members to collect wild vegetables and plants and do a good job in the minor autumn harvest to increase people's income. D) Protect livestock and help them survive the winter and organize collectives and individuals to mow grass. E) Strengthen the party's leadership over disaster relief work. [SK072132 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 5 Sep 80]

CSO: 4007

AGRONOMISTS CONDUCT SURVEY IN YANCHI, NINGXIA

Beijing RENMIN RIBAO in Chinese 2 Aug 80 p 1

[Article: "Cattle Raising Industry Bases Set Up Primarily for Tan [3492] Sheep Following on-Site Survey by Agronomists in Yanchi County Where They Proposed a Program for Best Economic Benefits"]

[Text] Not long ago, more than 200 agronomists and pertinent leadership cadres concerned, who were organized by the State Agricultural Commission and the Chinese Academy of Sciences, conducted a survey of the farm economy at Yanchi County in the Ningxia-Hui Autonomous Region, proposing a program for deriving best economic benefits through the fullest use of this county's advantages in natural resources and through further development of the agricultural economy.

Yanchi County is the foremost base county in the nation in the modernization of its agriculture. Located at the dividing line between the arid prairie and the desert prairie, the topography, landforms, plant cover, and climate are all markedly transitional in nature. Likewise, the economy is a transitional one between agricultural areas and grazing areas. This survey of the farming economy was done principally through an analysis of the history and the present situation of the farm economy in Yanchi County in which the lessons of experience of the past 30 years in the output of agriculture, forestry, and cattle raising were summarized, and from which recommendations were made on the basis of a readjustment of the composition of the economy, reforms to the system of management, a liberalization of economic policies, and the establishment of an economically valuable ecological balance.

Establishment of modern cattle raising industry bases primarily for tan sheep is a central task for the development of the economy of Wu County. This county is rather well developed for a prairie cattle raising industry based on the tan sheep. Output value of the cattle raising industry amounts to 45 percent of the annual output value of agriculture, and it was 87 percent in the highest year. This county has a broad natural prairie where costs of operating the cattle industry are low, income large, and the commodity rate fairly high. Tan sheep are a variety of sheep with fine

pelts that are peculiar to China. Economic value from these short-haired pelts and from wool is high. With the development of a cattle raising industry, the economy of the cities and commune and brigade business enterprises will also develop primarily through the processing of cattle products. Given the existing production conditions, plus some increase in investment, within 5 years the output value of cattle products will increase many times over.

Effective solution to the problem of food grain for farmers and herdsmen and limiting implementation of the program of "cattle first." Yanchi County has the conditions for dryland agriculture, and in both historical and current terms, it is capable of achieving self sufficiency in grain. But because of the rapid increase in population, the level of grain production is both low and inconsistent, so it is not appropriate to emphasize self sufficiency in grain output.

Establishment of combined cattle raising, industrial, and commercial business enterprises, institution of production according to zones, specialities, and commodities, and construction of modern cattle raising industry bases. To do these things, the current economic situation of self sufficiency and semi-self sufficiency in Yanchi County will have to be changed, and vigorous efforts made to develop a commodity economy with the gradual building of joint cattle, industrial, and commercial business enterprises in which pelts, wool, livestock feed and such animal and soil products are paramount.

Stress must be given to the training of scientific and technical personnel for the building of the bases to fill out the scientific and technical ranks quickly, to build a system for scientific research and the promotion of techniques. All sorts of scientific and technical training classes have to be operated and regional academic discussions launched so as to combine, in fact, advanced scientific techniques with the advantages of local resources and local economic advantages.

QINGHAI

BRIEFS

PRIVATE LIVESTOCK--Huangyuan County in Qinghai Province scored great achievements in developing animal husbandry. By the end of June the number of various livestock across the county reached more than 144,000 head, an increase of more than 13,000 head over 1979. The number of individually owned cattle and sheep throughout the county stood at more than 46,000 head, surpassing that of the corresponding period in 1979 by some 20,000 head. [SK100036 Xining Qinghai Provincial Service in Mandarin 1100 GMT 8 Sep 80]

CEREAL, LEGUME HARVEST--According to statistics compiled by the Qinghai Provincial Agriculture and Forestry Department, more than 2.2 million mu of cereal and legume crops have been harvested throughout the province. [SK120731 Xining Qinghai Provincial Service in Mandarin 2330 GMT 10 Sep 80]

BEEF CATTLE BASES--Twenty-one bases for raising beef cattle for export purpose are now under construction in 13 counties and 3 state farms in Qinghai. Steps have been taken to produce sufficient fodder and feed at these bases so that fattened cattle will be available for export throughout the year. [Beijing RENMIN RIBAO in Chinese 26 Aug 80 p 1]

CSO: 4007

WAYS TO SAVE HAILSTORM-DAMAGED COTTON PLANTS DISCUSSED

Jinan DAZHONG RIBAO in Chinese 13 Jul 80 p 1

[Article by the Shandong Provincial Cotton Office: "How Can Hailstorm-Damaged Cotton Be Saved?"]

[Text] Both experience gained in production and scientific experimentation attest to the fairly strong capacity of cotton to resist hailstones. Before blossoming, even if the cotton plant is knocked bare, so long as the conductive tissue has not suffered fatal damage and the remaining stalk has leaf nodes, usually new branches will appear, growth will revive, and output will be unimpaired or may even be bumper. Therefore once there has been a hailstorm, attention must be given to the damage done and action taken to save the plants. They cannot be lightly turned under. The following rescue measures may be taken.

1. Prompt cultivation to loosen the soil so that the soil will be ventilated and its temperature increased. This helps the normal growth of the root system.
2. A dressing of quick acting fertilizer to improve the nutritional conditions for the cotton plants so that the damaged plants will revive growth as quickly as possible.
3. Prevention of damage from cotton aphids and cotton boll insects, making sure that each leaf is protected and each cotton square is treated.
4. Scientific treatment of branches. Once the damaged cotton plants resume growth, there are often numerous heads, thick growth, and numerous branches which are not good for normal squaring and blooming. Scientific treatment must be given the branches. When the center of the plant has not been damaged but only the leaves have been shredded or the boll-bearing branches broken, there is a rapid wild forking and formation of ears, and normal growth of the main stem must be assured. When the center of the plant has been broken, but broken leaves or a small number of

ball-bearing branches remain, once new buds have appeared on the top of the main stem, one or two large buds should be selected as replacements for the center growth. When the head is broken off and the plant is bare, as during the initial squaring period, for example, one or two healthy new buds growing out of the top of the main stalk may be selected for retention. No more than three should be selected for retention. If damage occurs during the early blossoming period when squaring is complete, in order to keep pace of the growing season, one cannot mechanically decide to keep a certain quantity of buds, but once most of the new buds have begun to square, one has to work over the branches getting rid of small buds that have no squares, keeping big buds with squares. At a suitably early time, the center of the plant has to be removed so that more effective balls will form.

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ROLE OF INVESTIGATION, ZONING ON AGRICULTURE STRESSED

Jinan DAZHONG RIBAO in Chinese 15 Jul 80 p 3

[Article by Zeng Huguang (2582 0735 0342): "A Look at the Role of Investigation and Zoning on Natural Resources for Agriculture on the Basis of Experience at Ye County and Dezhou City Test Sites"]

[Text] The investigation and agricultural zoning of natural agricultural resources is a fundamental task in the implementation of agricultural modernization. On the basis of experience at the test sites of Ye County and Dezhou City in Shandong Province, it has the following four functions.

1. It can clarify resources, allowing the leaders of agricultural production to know what is what. In the case of soil resources, for instance, many people know that the actual cultivated area will be greater than the reported statistics, but there is no precise conception as to just how much greater. As the result of a general soil survey, it is now clear that the actual cultivated area in Ye County is 12 percent more than the amount reported in 1978. In Dezhou City it is 29 percent more. In the 14 counties throughout the province where soil surveys have been done, the average is 20 percent more. Forestry resources are another example. Dezhou City originally reported 14 million trees throughout the city, but actual check showed only 4.16 million or 70 percent fewer. Four sides [house side, village side, roadside, and waterside] tree plantings in Ye County were originally reported as averaging 22 trees per person, but actual checking showed only 11. The aforesaid situations demonstrated that a general check of natural agricultural resources can put an end to or reduce unsubstantiated exaggerations and can permit leaders concerned to base their work on a fairly solid and reliable foundation, thereby preserving and using natural resources in a rational way, and to make the most of advantages and eschew disadvantages and organize production scientifically.

2. It permits discovery of the major factors impeding the growth of agricultural production, the taking hold of key elements, and the adoption of effective measures. In Ye County, for example, after per mu grain yields reached 915 jin in 1975, they have since fluctuated for

years, making no forward progress. It was discovered as a result of this investigation that the principal reason is lack of water resources and insufficient fertility. On the basis of the pertinent investigative materials, the county CCP committee decided that in solving the shortage of water resources, they would continue to work at pertinent water conservancy projects and also act vigorously to conserve water and to use water scientifically. They would do things such as sinking blind shafts so that the aquifers would be replenished during times when water was abundant; readjust the pattern of mechanized well distribution; and vigorously develop spray irrigation. In order to increase fertility, they would actively launch mass raising of hogs and collection of fertilizer, make methane gas, intercrop with green manure, set up soil nutrient films on the fields, and gradually get around to the scientific application of fertilizer according to the soil and the crops being grown.

4. Hasten agricultural development and provide scientific data in order to adapt methods to local circumstances. To use Dezhou City as an example, farming used to be paramount in the agriculture there. They had all kinds of grain, cotton, peanuts, melons, vegetables and fruits, so as to just what they should emphasize for development was not at all clear. Following resources investigation and agricultural zoning, every echelon of leadership and the authorities concerned unanimously agreed that since the population of Dezhou City was greater than that of the rural villages, and since total industrial output value amounted to 13 times total agricultural output value, since agricultural sideline products directly accounted for half of total agricultural output value, and since railroad and highway communications were quite well developed, it was decided that the main emphasis of agricultural production should be on construction of a suburban nonstaple foodstuffs base, and while stabilizing the production of grain they should hasten the production of nonstaple foods such as meat, eggs, milk, melons, fruit, and vegetables, take the road of combined development of agriculture, industry, and commerce, and make a fairly specific delineation of areas for the formulation of individual measures to be taken in them.

5. It is to gain scientific knowledge and increase the level of scientific farming. The process of investigation and zoning of natural agricultural resources is also a process for broadening the spread of scientific knowledge among cadres and the masses, and in increasing their knowledge about scientific farming. In Dezhou City, the Sishuang Production Brigade of the Shuangheya Commune had 50 mu of land, which after being deeply plowed not only showed no increased production for 3 years in a row, but showed decreased production. The reason why could not be fathomed at the time, but as a result of this general soil survey, it was found that the layer of clay beneath the surface of the soil was very shallow, and that the deep plowing had broken through this clay layer allowing loss of water and loss of fertilizer. These methods have since been corrected.

SHANDONG

BRIEFS

HAIL DAMAGE--On 1 September 27 counties in Shandong Province's Yantai, Changwei, Dezhou, Jining and Huimin Prefectures and Jinan Municipality were hit by a 12-grade gale and hailstorms. Six counties, including Ye, Bin and Changqing, suffered heavy losses. Provincial, prefectural and county party and government organs at all levels are conducting relief work in these areas. (Jinan Shandong Provincial Service in Mandarin 2300 GMT 4 Sep 80)

CSO: 4007

SHANGHAI

BRIEFS

VEGETABLE SUPPLY--The recent meeting of the secretaries of the various county CCP committees of Shanghai, sponsored by the Shanghai Municipal Commission of Agriculture, approved the proposal to produce 1.17 million dan of vegetables in grain and cotton fields through intercropping in the various counties to ease the supply of vegetables. It is estimated that the newly-planted vegetables will be available at markets around the 1980 (as heard) spring festival. (Shanghai City Service in Mandarin 2300 GMT 5 Sep 80)

CSO: 4007

SEEDLING CULTIVATION TECHNIQUES IMPROVED

Chengdu SICHUAN RIBAO in Chinese 3 May 80 p 2

[Article: "Prefectures in East and South Sichuan Improve Seedling Cultivation Techniques"]

[Text] Remarkable achievements have been made in eastern and southern Sichuan Province prefectures after taking firmly in hand improvement of paddy rice seedling cultivation, thereby laying a foundation for increased output of paddy rice.

Widespread backwardness in seedling cultivation techniques is the principal reason for low rice production in the eastern and southern prefectures of Sichuan Province. In order to change this situation, every locale has taken in hand as a major measure the improvement of seedling cultivation in order to realize increased rice output this year. Leadership on all echelons has plunged into the front line, has investigated and studied, has summarized and promoted advanced experiences, and has promptly discovered and solved problems in the improvement of seedling cultivation. Additionally, each locale has adopted various forms of training of technical forces and has widely disseminated new technology for seedling cultivation. Statistics show that a total of more than 1.052 million cadres and commune members have been trained by various locales. In the cultivation of seedlings, a system of responsibility has been universally established, and through assignment of tasks and clearly defining rewards and punishments, a vast improvement in the quality of seedling cultivation has been effected. In the 7 prefectures and municipalities of Jiangjin, Wanxian, Fuling, Yibin, Daxian, Chongqing, and Zigong, statistics show that this year's area of moist seedling fields is more than 60 percent of the total, and that quantity of seeds sown per mu of seedling fields declined from last year's 120 to 180 jin to from 60 to 100 jin. Building of 19,000 hothouses has had greater development than in the past. In Daxian Prefecture, a heartening phenomenon of "five increases and five decreases" occurred this year, meaning that fine varieties increased while inferior varieties decreased; moist seedling fields increased while water-covered seedling fields decreased; cultivation of seedlings in hot houses increased while the old method of cultivating seedlings decreased; the area of seedling fields increased while quantity of seeds used per mu decreased; tillering of sturdy seedlings increased while wispy seedlings decreased.

RICE YIELD RAISED IN LESHAN

Chengdu SICHUAN RIBAO in Chinese 3 May 80 p 2

[Article: "Leshan Prefecture Strives To Increase Paddy Rice Output from Low Yield Fields"]

[Text] Leshan Prefecture has acted quickly to adopt effective measures to increase output from low yield fields, insuring increased production of paddy rice over a wide area.

While taking in hand its paddy rice production, the Leshan Prefecture CCP Committee has paid extreme attention to increasing the output from low yield fields in order to promote balanced increases in yields. The prefecture CCP committee showed that low yield fields throughout the prefecture fell into three general categories. One is 400,000 to 500,000 mu of fields that perennially have "sitting autumn" where per mu yields are generally more than 200 jin lower than other fields. The second is 1 million mu of wheatfields where some of the land became seriously saturated as a result of heavy autumn rains last year and where, unless prompt control measures are taken, the rice is very likely to produce low yields. Third is several hundred thousand mu of rice seedling beds where plowing and harrowing is commonly done poorly, and where basic fertility is slight and the quality of plantings poor with the result that output is also low.

In order to find ways to increase rice output from these three categories of fields, leadership comrades in the prefecture CCP committee delved into rural villages to conduct inspections and to study. Agricultural departments also sent cadres for a conscientious summarization of the experiences of the masses, and measures were then proposed in accordance with all findings. In the case of the sitting autumn fields, nursing of healthy seedlings was proposed in light of the depth of mud in the fields, the long period of stagnant water, the low temperature of the soil, the tenderness of the seedlings, and the heaviness of nitrogenous fertilizer applications. These measures included sunning the fields to raise temperatures (planting of seedlings in shallow water early in the season with shallow water and sunning of the fields in the late season), and changes in the composition of fertilizer (changing heavy

applications of nitrogenous fertilizer to heavy applications of potash and phosphate fertilizers).

At the present time, in every locale throughout the prefecture, quality of seedlings has been enhanced through the propagation of sturdy seedlings. Applications of reasonable amounts of fertilizer, applications of sufficient base fertilizer, and vigorous production of ammonia water has been done in an effort to increase per unit yields from low yield fields. In Jingyan County where the area affected by sitting autumn is large, the composition of fertilizer applications has been completely readjusted. The fertilizer from farm families set aside for use on drylands is mixed with potash fertilizer and put on the fields in order to increase the phosphate content of the fields, and to increase the temperature of the soil. Currently, wet fields throughout the county to which fertilizer has already been applied amounts to more than 65,000 mu. In order to satisfy the needs of wheat fields, every nitrogenous fertilizer plant is working day and night to produce ammonia water. The Renshou Nitrogenous Fertilizer Plant alone has now produced and supplied more than 6,000 tons of ammonia water to rural villages, more than double the amount for the same period last year.

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CSO: 4007

BRIEFS

AGRICULTURE NOTICE--The Sichuan Provincial People's Government issued an urgent notice on overcoming rain and doing a good job of the three categories of autumn farmwork. The notice pointed out that it is necessary for various areas to urgently mobilize, reap the ripe rice, corn and cotton and store them well. All the production teams must pay attention to intensive and meticulous harvesting, reducing waste and tending fields. The quantity and quality of cotton must also be improved. Field tending of late autumn crops must be strengthened. The leading organs and agricultural departments at all levels must regard the three categories of autumn farmwork as the central task in the countryside. At the same time, all the effective systems of production responsibility must also be implemented. [HK041216 Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 29 Aug 80]

CSO: 4007

XINJIANG

BRIEFS

MOUNTAIN SURVEY--Urumqi, August 22 (XINHUA)--Chinese scientists have discovered that there are reserves of 3,500 hundred million cubic meters of snow and ice over the 2,700 square kilometers of glacier on Mount Tomur. The mountain, the highest peak in the Tianshan range in Xinjiang, Northwest China, rises 7443.8 meters above sea level. This important discovery was made by a scientific survey expedition of the Chinese Academy of Sciences. Mount Tomur supplies 35 hundred million cubic meters of water annually to the surrounding areas and has great impact on industry, agriculture and livestock breeding. [Beijing XINHUA in English 0703 GMT 22 Aug 80]

GRASSLAND RESERVES--Urumqi, 4 Sep--Xinjiang has become a production center for livestock fodder grass reserved for winter use. The Xinjiang Autonomous Region has more than 6 million mu of paddocks, 2.4 million mu of irrigated grassland and 1.8 million mu of improved grassland. Yili, Tacheng and Altay Prefectures are making efforts to build pastures for winter and spring use. Winter and spring fodder shortage usually kills 70 or 80 percent of the livestock in those prefectures. [OW111427 Beijing XINHUA Domestic Service in Chinese 0710 GMT 4 Sep 80]

MELON, FRUIT HARVESTS--Urumqi, 11 Sep (XINHUA)--Farms in Xinjiang Uygur Autonomous Region have reported good harvests of melon and fruit this year. The harvest of honeydew melons and water melons was 610,000 tons, 20,000 tons more than last year, and the grape yield also increased. Xinjiang, with long hours of sunshine and low humidity, produces high-quality melons and other fruits that are prized throughout China. The most notable are seedless grapes from the Turpan Depression, melons, pears, apples, pomegranates, figs and walnuts. [Text] [OW111427 Beijing XINHUA in English 0720 GMT 11 Sep 80]

CSO: 4007

BRIEFS

FORESTRY STIPULATIONS--The Yunnan Provincial People's Government has formulated stipulations on protecting forestry resources and developing forestry production. The stipulations were adopted by the fourth session of the Fifth Standing Committee of the Yunnan Provincial People's Congress on 19 August 1980. Altogether there are 10 stipulations, which include the implementation of the ownership of forestry, the establishment of the system of forestry management, strengthening of the work of protecting the natural areas, strict prohibition of destroying forests to open up more land, control of timber production and legal operation of the forests. [Kunming Yunnan Provincial Service in Mandarin 1100 GMT 30 Aug 80]

CSO: 4007

COMMUNES, BRIGADES MUST DO BETTER JOB OF MANAGING FUNDS

Hangzhou ZHEJIANG RIBAO in Chinese 25 Jul 80 p 2

[Article by Hua Wenlie [5478 2429 3523] of the Puyang County Agricultural Office: "Communes and Brigades Must Manage and Use Capital Well"]

[Text] A recently launched commune and brigade fiscal examination of the four areas of Qingyun, Dayuan, Xindeng and Longyang in Puyang County has uncovered serious gaps. Deficiencies in the management of cash and discrepancies between actual reserves on hand and ledger entries were particularly commonplace. A check of 177 units in Qingyun district showed 725,994 yuan on the ledgers but only 55,406 yuan of actual cash (including savings), or only 24.7 percent of the total. Disarray in commune and brigade funds was the main reason for shortfalls in circulation funds, and this directly impaired the growth of agricultural production and the enthusiasm of commune members. How can commune and brigade funds be well managed and used? In the experience of some communes and brigades, the following tasks are very important in addition to a strict fiscal system.

The first is enhanced control over cash. Cash receipts and disbursements must be promptly entered into the accounts, regularly checked, with no loopholes allowed, so that the ledgers balance. A limit on cash reserves has to be set, with a requirement for transfers to settle accounts. Backing has to be given to carrying out required supervision by credit cooperatives over the management of commune and brigade cash. This is an important measure for the prevention of the jumbling together of funds.

The second is "special depositor" accounts. In the use of funds, there has to be a system of return to rightful owner. Presently, some communes and brigades use the "common pot" method in the management and use of funds with no clear idea of whom collectively held resources belong to. Accumulation funds are merely figures where there are, in fact, no savings. In some cases they have actually been in the red. This "muddling through" has to be changed. Conditions must be actively created for implementation of "special depositor" savings accounts so that accumulation funds, public welfare funds, grain reserves, production expense funds, depreciation expenses and commune members' living expenses (anticipated cushion funds)

can be deposited separately, and special purpose funds will be used for the special purposes intended. In this way there can be planned use of monies.

The third is a strengthening of internal settlement of accounts. The form and method for internal settlement of accounts among units may be either the "internal bankbook" (similar to the old "money bankbook"), or it may be a "settlement sheet." In dealings among commune members, the "work manual" or the "commune member's monthly settlement sheet" may be used, or else "price certificates" may be issued. Each commune member depositor may be issued with a certain quantity of "price certificates" for the quantity of disbursements due him (except for grain) on the basis of "annual early notification," and distribution of money or goods will be made against these certificates. This procedure will make it easy for commune members to keep a record and will make the settlement of accounts easy, with benefits for adhering to the planned distributions according to "early notification," and benefits for controlling disbursements when there are no reserves to disburse or excessive disbursements.

9437
CSO: 4007

CONSERVE FARMLAND WHEN BUILDING HOUSES

Hangzhou ZHEJIANG RIBAO in Chinese 23 Jul 80 p 2

[Article by Wang Weizhang [3769 4885 2874] of the Provincial Construction Commission: "Care Should Be Given to Conservation of Farmland When Building Houses in Rural Villages"]

[Text] As agricultural sideline production has increased, peasant income has increased, and as commune and brigade enterprises as well as cultural and welfare endeavors have grown during the past several years, more and more houses have been constructed in rural villages. This is a fine situation. However, there is a problem common to the construction of housing in rural villages, and that is a lack of unified planning with excessive use of farmland. This should arouse a high degree of serious attention on the part of the leadership at all echelons in rural villages.

In our country, where land is scarce and people are numerous, the land is extremely precious. Ever since the founding of the People's Republic, every effort has been made to arouse the masses everywhere to open up new farmland, but because of requirements for the growth of economic construction, and for other reasons which have to do with the use of land, a very great actual decline has taken place in the area of farmland throughout the province. Between 1957 and 1978, a reduction of 3.6 million mu of farmland occurred throughout the province, for an average annual decline of 170,000 mu, and it is the construction of houses in rural villages that currently uses up most of the farmland. Last year in Hangzhou Prefecture, state capital construction took over more than 5,900 mu of land, while construction of houses by communes, brigades, enterprises and commune members took more than 57,000 mu, accounting for 90 percent of the use of land for construction. The laissez-faire and unrestrained situation in the use of land for the construction of houses makes for much land utilization and great waste. Unless there are strict controls, the already scant farmland in our province will continue to decrease, with inevitable impairment of the growth of agriculture. Therefore, in order to conserve the use of land for construction, it is necessary both to continue to restrict use of land for state capital construction, and to effectively strengthen leadership and management

house construction in rural areas, treasuring the land and conserving its use in the construction of houses.

Can land be conserved when houses are built in rural villages? On the basis of commune and brigade experiences in the construction of new villages at test sites, with unified planning and a reasonable layout pattern, not only can land be saved but the farmland area can be enlarged. Formerly the hamlet where Yuanfu Commune is located in Hangzhou City was very small, but some commune members had individual family homes and the houses were widely scattered, using much land. Within the past few years they have made unified plans, combining the regulation of water-courses and improving the soil to build a new village, converting the land on which the old houses formerly stood into farmland, for an increase of 610 mu in the amount of farmland. The Yinyang Brigade in Yin County cut into a mountain and filled in ravines to build a stretch of new homes over an area of more than 40,000 square meters. They also built a school on the slope of the mountain and increased the amount of farmland by 64 mu. According to statistics from 6 commune and brigade test sites, the farmland area increased by 899 mu following construction of new villages, for a 7.9 percent increase in farmland. Generally speaking, conservation of farmland in the construction of houses takes the following several forms: First there is good planning and distribution of homes. The amount of land to be by commune members for the construction of houses, the size of compounds, the distance between houses, and the widths of roads need to be discussed in a democratic way, with reasonable standards being set so as to avoid dispersal of construction and a waste of land. Second, in cases where old villages are transformed, changes in construction of the old villages are made without using additional land. Third, every effort is made to use slopes, infertile land and wastelands, with villages being built in mountainous and semimountainous areas where land is made suitable for the construction of houses. Fourth, there is planned concentration, as suitable, of several small villages or individual houses, with the places where the houses formerly stood being converted to farmland. Fifth, there is construction of multistory buildings, where conditions permit, with a reduction in the construction of single-story houses.

The key to good performance in this regard is the strengthening of leadership. At every echelon of party and government departments, particularly in the leadership of counties, communes and brigades, construction of houses in rural villages has to be placed on the agenda and an end put to laissez-faire. Communes and brigades have to be organized to plan housing construction on the principles of benefits to production, convenience for living and conservation of land. Collectively constructed commune and brigade housing, as well as housing constructed by individual commune members, must be built according to unified planning in order to avoid disorderly construction and indiscriminate use of land. Commune members must be taught to distinguish correctly between present benefits and long-term benefits and the relationship between production and living conditions. They must also conserve land and insure increased agricultural output.

DIVERSIFICATION NEEDED IN LIVESTOCK PRODUCTION

Hangzhou ZHEJIANG RIBAO in Chinese 20 Jul 80 p 2

[Article by Commentator, "Diversification Needed in Development of Livestock Production"]

[Text] Just as development of the farming industry requires diversified operations, so too does the development of the livestock industry require steady diversification. It is not enough to raise only hogs, but cows, sheep, rabbits and poultry have to be raised too in order to give full play to each and every advantage, to hasten the development of the livestock industry, and to satisfy the country's needs for draft animals and for animal products so that we can become prosperous more rapidly.

Last year, total output value from the livestock industry in Zhejiang Province amounted to 14.5 percent that of the total output value of agriculture. The source of 83.3 percent of income from the livestock industry was hogs while output value from the sale in international markets of hides and furs was only 6.9 percent. The low ratio of the livestock industry to agriculture, and the lack of a rational internal competition in the livestock industry both demonstrate that one major way to develop the latent potential in livestock production is steady development of diversification. Full development of grazing resources in Zhejiang Province also awaits the development of diversification in livestock. According to a preliminary survey, of the more than 10 billion mu of grass-covered mountains and slopes in Zhejiang Province, almost 6 billion mu has bush forests and sparse woods. On a scale of 100 for pasture grasses, annual per mu output of fresh grass from grassy mountains and slopes would amount to more than 1,000 jin. Given such a product abundance, and a "plant protein processing plant" of impressive natural output capacity, if only we will emphasize their use and actively develop grass-eating livestock for many kinds and qualities of grasses, considerable amounts of meat, hides, furs and milk can be had, and this is a tremendous wealth. The ancients said, "Attend to the raising of livestock and inquire into what is fitting for the soil. When the six domestic animals are raised and the five grains grown, wealth will increase." This is what is meant.

Ever since the implementation of the spirit of the Third Plenum of the 11th Party Central Committee, the development of the livestock industry in Zhejiang Province in the direction of diversification has taken a systematic step. There has been renewed development of Tiantai small goats (1659-1661) of Linhai milk goats, of Xinghang longhaired rabbits, and of the great white geese of eastern Zhejiang. These animals and poultry have diverse uses, but all greatly increase the income of commune members, make the economy prosper, and some of them have become "first" goods as items exported by the state, which have brought in large amounts of foreign exchange.

In the process of diversified development of livestock production, we must be realistic in giving play to local advantages. Recently Qintian County began a survey of its pasture grass resources, discovering 55 different kinds of grassland plants of which more than 10 existed in large amounts and were highly valuable for use as livestock feed. On the basis of their findings about grazing grasses, they formulated their own plans for the development of the livestock and poultry industry. In some county where there are different kinds of grasses, several kinds of livestock product commodity bases have been planned. On medium and gentle slopes with a covering of vegetation and on low mountain grasslands, they have developed cattle raising. On steep inclines with mixed grass and trees, goats and sheep are being raised. Miscellaneous grass patches are being used primarily to feed rabbits. This method of taking account of local realities for total development of the livestock industry deserves to be advocated elsewhere.

In order to implement a diversification of operations, there has to be a diversification of economic forms as well. The quality of management makes a difference as to whether economic results will be large or small. Collective livestock farms may be operated or households may be encouraged to own and raise livestock themselves. A system of public ownership and public raising may be adopted, or there can be raising by special households. In short, the method must be beneficial in giving play to the special skills and knowledge of individuals and households, and be beneficial to a further tapping of latent potential to obtain economic results from a small amount of investment that sees results quickly, and in a big way.

BRIEFS

EARLY RICE VARIETIES SELECTED--The recently held Provincial Early Rice Fine Varieties On-Site Selection Conference acknowledged that the "Erhuojing," "Yuanfengzao," "Zhongganbao," and "Guangluqi No 4" varieties, which are so widely used in Zhejiang Province, have for many years exhibited characteristics of consistent and high yields and are still desirable dominant varieties. They recommended that every locale adapt methods to local conditions and select them rather than make changes lightly. Output from "Qingganhuang" is almost that of "Guang Lou No 4." Furthermore, it ripens 1 or 2 days earlier, has rice of good quality, a high rate of output, and is a very promising fine variety. The on-site selection conference also made an evaluation of some new varieties that have made their appearance for the first time. They were "Sihai No 2," "Shuangke No 1," "Zhuguang 23," and "Qinglian 16." They felt that further widespread test planting of these varieties would be desirable. The conference also drew everyone's attention to purification and rejuvenation work, mindful that given the relatively consistent state of the dominant varieties, this was a way to extend the limit on the number of years varieties could be used, and a major measure for giving full play to the heterosis of fine varieties. [Text] Hangzhou ZHEJIANG RIBAO in Chinese 29 Jul 80 p 2] 9432

NEW LATE RICE VARIETY--The new variety of late crop rice, "Aigeng 23," which was bred by scientists and technicians at the Paddy Rice Institute of the Provincial Institute of Agriculture, has been tested during the past several years in areas throughout the province. Comparative experiments with plantings over wide areas, and test plantings in different agricultural areas have demonstrated that in comparison with the existing dominant late rice varieties, "Nongda No. 6," and "Jiahu No 4," "Aigeng 23" is more resistant to lodging, has larger panicles and more numerous grains, is more resistant to bacterial blight and blast of rice, and has per mu yields that are from 5 to 10 percent greater. It has been enthusiastically received by the masses. Last year more than 100,000 mu of it was planted throughout the province, and this year a rapid extension of its cultivation will take place. In Shangyu and Shenzhai prefectures, it has become the dominant late crop rice variety, and provincial authorities concerned have made it a superior variety

far promotion throughout the province. "Aigeng 21" is a late-maturing late crop gong rice. It has aroused the attention of the International Rice Institute as well as that of Japanese and other foreign researchers because of the short stem xian rice in its genetic makeup. This variety has a rather long vegetative growth period. In northern Zhejiang Province, total length of growing period is around 140 days; in southern Zhejiang it is about 125 days. According to statistics from some of the units that planted 3,230 mu of it in 6 counties last year, "Aigeng 21" averaged per mu yields of 816.8 jin, and per mu yields of more than 1,000 jin accounted for about 3 percent of this. Per mu yields of from 800 to 1,000 jin amounted to more than 50 percent. On slightly more than 4 mu at the Provincial Agricultural Institute's Test Farm, single transplantings of one crop of rice averaged an output of 1,184 jin per mu. [Text] (Hangzhou ZHEJIANG RIBAO in Chinese 23 Jul 80 p 3) 9432

EGG PRICE CHANGE--In the spirit of State Commodity Price Bureau and Ministry of Commerce notification, together with the realities of Zhejiang Province, and following agreement by the Provincial Commodity Price Committee, the Provincial Department of Commerce has decided that beginning on 1 July further readjustment will be made in the seasonal price difference for fresh eggs. Throughout the province, the average selling price for chicken eggs will be readjusted from the current .88 yuan per jin to .79 yuan per jin. Once the seasonal price difference for fresh eggs has been adjusted, the award price policy established by the state for state procurement of fresh eggs will not change. [Text] (Hangzhou ZHEJIANG RIBAO in Chinese 21 Jul 80 p 1) 9432

RURAL SAVINGS--Savings by commune members in rural villages in our province increased by 167 million yuan during the first half of the year, doubling the figure for the same period last year. As of the end of June, savings from rural villages taken in by agricultural banks and credit cooperatives throughout the province amounted to 769 million yuan, or an average of 22 yuan per villager--an increase of 6 yuan over the end of last year. In Zhenhai County, where savings were greatest, average per capita savings amounted to 70 yuan. In Ningbo municipality and in Haining and Shaoxing counties, average per capita savings were more than 50 yuan and more than 40 yuan, respectively. Throughout the province there are also quite a few brigades with savings in excess of 10,000 yuan, and communes with savings of more than 1 million yuan. The main reasons for this tendency toward the rapid growth of savings in rural villages in our province during the first half of this year are the increase in the economic income of peasants and a further increase in April in the interest rate on savings. Additionally, agricultural bank and credit cooperative employees have launched an active savings campaign and have striven to provide good service. [Text] (Hangzhou ZHEJIANG RIBAO in Chinese 21 Jul 80 p 1) 9432

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- of Plant Development, Biology Department, Beijing University (156)
- ⁹⁹MoO₄²⁻ Uptake and Transformation by Azotobacter vinelandii as Influenced by Combined Nitrogen.....Xu Renbang [6079 0088 6721], Chen Yia [7115 0936] and Shen Gongmao [3088 7255 2806], all of the Shanghai Institute of Plant Physiology, Chinese Academy of Science (161)
- Studies on Plant Chlorophyll-Protein Complexes. 1. The Chlorophyll-Protein Complexes of the Sun Plant Sunflower and the Shade Plant Malaxis monophylla (L.) Sw. Chu Zhongxi [0328 6988 5549], Xu Chunhui [6079 2504 6540], Mao Dazhang [3029 1129 3864], Zhao Fuhong [6392 4395 3163] and Dai Yunling [2071 0061 3781], all of the Laboratory of Photosynthesis, Institute of Botany, Chinese Academy of Science (172)
- Studies on the Coupling Mechanism of Photophosphorylation. 11. Studies on the Stimulatory Effect of Aureomycin on Photophosphorylation.....Huang Zhuohui [7806 0587 6540], Wang Guoqiang [3769 0948 1730], Wei Jiamian [7614 1367 1875] and Shen Yungang [3088 0336 6921], all of the Shanghai Institute of Plant Physiology, Chinese Academy of Sciences (181)
- Effect of Cultural Conditions on Cellulase Formation by Pichoderma and Preliminary Examinations of Two Natural Stimulators for Cellulase Production.....Zhang Zhenqing [1738 2182 3237] and Tong Benxian [4547 2609 0103], both of the Shanghai Institute of Plant Physiology, Chinese Academy of Science (189)
- Effects of Surfactants and 2,4-dinitrophenol on K⁺ Transport and Hill Respiration of Excised Wheat Roots.....Jiao Xinzhi [3542 2450 0037], Feng Xiuxiang [7458 4423 7449], Li Lin [2621 3829] and Ni Jinshan [0242 2516 1472], all of the Shanghai Institute of Plant Physiology, Chinese Academy of Science (198)
- A Study of Cultivation Conditions for Cell Wall Regeneration of Isolated Maize Mesophyll Protoplasts.....Yan Jiqiong [7346 1323 8825], Ren Keqiang [7086 0244 0474], He Xianghui [7346 1323 8825] and Yan Jiqiong [0719 5393], all of the Biology Department, Shanghai Normal University, Shanghai (205)
- Application of Calcofluor White M1 in Studying the Regeneration of Cell Wall in Protoplast.....Huang Xianghui [7806 0587 6540] and Yan Jiqiong [7346 1323 8825], both of the Biology Department, Shanghai Normal University, Shanghai (211)

lysine-Analog-Resistant Mutant Induced from Tobacco Callus
.....He Zhuopei [0149 0587 1014], Xu Zhuyun [1776 4554
4596], Xu Shuping [1776 3219 1627] and Luo Shiwei [5012
1102 5898], all of the Shanghai Institute of Plant Physiology,
Chinese Academy of Sciences

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Brief Communication

Embryogenesis in Corn Anther Cultures.....Wu Jialin [0702
3946 2651] and Zhong Qiulan [6988 4428 5695], both of the
Plant Tissue Culture Laboratory, Guangxi Agricultural College

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CSO: 4007

Abstract: 2456. 11/25/80 [1:272-2529-22/80]
Acta Agronomica [7:19 (1911-7787)]

Author: DIRM of the Institute of Crop Breeding and Cultivation, Chinese
Academy of Agricultural Sciences; GAO of the Guojilabao Production Brigade,
Jingluo, People's Republic, Taigu, Shanxi

Title: "The Use of a Dominant Male-Sterile Gene in Wheat Breeding"

Abstract: JOURNAL ZHONG XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 2, Jun 80
pp 85-91

EX. OF ENGLISH ABSTRACT: A male-sterile plant whose anthers contained "no
pollen grains" was found in a Chinese wheat cultivar (*T. aestivum* L.). Micro-
sporogenesis breakdown occurred after the tetrad stage. The F₁ of this plant
and its progenies in successive generations always segregated into male-sterile
and male-fertile plants in equal proportions. When a male-sterile segregate
was crossed with any normal male parent, there was always a clear-cut one-to-one
segregation of male-sterile and male-fertile plants. All the male-fertile off-
spring were true in every case. Thus far, no intermediate types were found in
the segregation analysis. It was suggested by the authors that a heterozygous
dominant male-sterile gene was involved in the inheritance of this character.

[Translation of ZHONG XUEBAO No 2, Jun 80 pp 85-91]

Conclusion: The original plant was normal. A gene symbol [a] was as-
signed and the genotype of the original male-sterile plant is (N) [a]. A
dominant male-sterile gene is suggested by using this gene is herewith proposed.

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 1-10

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 11-20

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 21-30

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 31-40

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 41-50

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 51-60

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 61-70

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 71-80

1964 - JOURNAL OF THE [SOCIETY OF RICE BREEDERS], VOLUME 1, NUMBER 1, PAGES 81-90

AUTHOR: CHANG Ruzhen [1901-1967-1966]

ORIG: Institute of Crop Germplasm Resources, Chinese Academy of Agricultural Sciences

TITLE: "Studies on Heritability and Correlations of Several Agronomic Characters in Soybean Crosses"

SOURCE: Beijing ZUOWU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 2, Jun 80 pp 111-118

TEXT OF ENGLISH ABSTRACT: An estimation of heritabilities and genetic correlations in F_2 populations and F_3 progenies of three crosses of different types of soybeans was made in 1964-65. These crosses were Amur No 41 x Shengao (Glycine max), Amur No 41 x Semi-Cultivated Yellow Soybean (G. gracilis) and Fengdehuang x Wild Soybean (G. soja).

The heritabilities of several important agronomic characters of soybeans were estimated by three different methods. Results of such evaluation showed that values of heritability estimated by the broad sense method were the highest, those by the correlation method were the lowest and those by variance analysis method were intermediate. The heritabilities of time of flowering, date of maturity and plant height were the highest, those of number of nodes of main

[Continuation of ZUOWU XUEBAO No 2, Jun 80 pp 111-118]

stem and weight of 100 seeds ranked next, while those of number of branches were the lowest. Therefore, during the early generations of soybean crosses, characters with high heritability, such as date of maturity and plant height, can be selected rigorously.

In general, genotypic correlations were higher than the phenotypic correlations. Correlation between number of pods per plant and date of maturity, plant height, number of nodes of main stem and number of branches were positive and significant. Environmental correlations among the characters studied were generally not significant.

AUTHOR: Si Wei [0242 2529]

ORIGIN: Laboratory of Plant Physiology, Kunming Institute of Botany, Chinese Academy of Sciences

TITLE: "Cultivating Sturdy Rice Seedling by Blue Light"

SOURCE: ZHONGGUO ZUOWU XUEBAO [ACTA AGRONOMICA SINICA] in Chinese No 2, Jun 80 pp 119-123

TEXT OF ENGLISH ABSTRACT: An experiment was carried out to study the effects of various light qualities on morphological and physiological characters of rice seedlings. The results obtained are as follows:

1. The plant height was remarkably enhanced by red light but depressed by blue and yellow ones.
2. The chlorophyll content was increased by blue light.
3. The soluble sugar, starch and cellulose contents of rice seedlings were increased by blue light. Therefore growth of rice seedlings was strongly influenced by light quality.
4. The blue light promoted the photosynthetic activity, but the photorespiration and CO_2 compensation point were increased by red and colorless light.
5. When the plants in the nursery stage were covered with blue film, the number of tillers was increased until 50 days after transplanting, while red

[Continuation of ZHONGGUO ZUOWU XUEBAO No 2, Jun 80 pp 119-123]

light slightly stimulated the formation of tillers.

It was suggested that the blue light could be used to raise sturdy rice seedlings in the rice nursery bed.

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